ENGINEERING NEWS-RECORD

ingsley Dam in Nebraska, completed except for finished grading and precast slope protection

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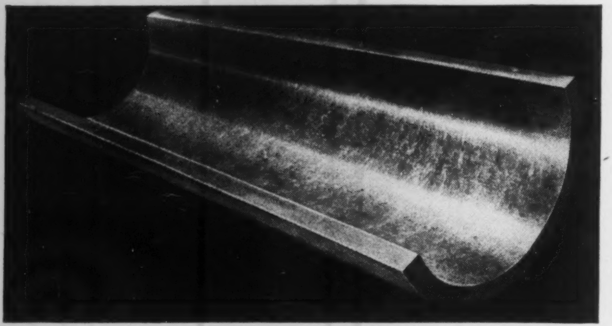
DELIVERY CAPACITY...

and how a non-tuberculating pipe helps keep it at a high level

WATERWORKS ENGINEERS generally agree that a water main, even though it remain structurally intact, may completely outlive its economic usefulness over a period of time. This point is reached when the pipe will no longer carry, economically, a sufficient volume of water to meet demand. Such a condition may arise from characteristics inherent in the pipe itself, from increased demand or from a combination of these two causes. Thus, in designing water systems, the engineer is faced with the responsibility of anticipating and solving these problems.

A Practical Solution

To compensate for expected reductions in carrying capacity, specifications often call for larger sizes of pipe than would otherwise be necessary. However, there is another, less expensive solution. In J-M Transite Pipe, engineers find basic advantages that permit them to specify the most economical pipe sizes with full assurance that delivery capacity will not be reduced by tuberculation, the internal corrosion which, even when present in relatively small degree, greatly reduces the carrying capacity of ordinary pipe.



Transite Pipe provides an unusually smooth interior surface that offers minimum resistance to the flow of water.

Flow Coefficient C=140

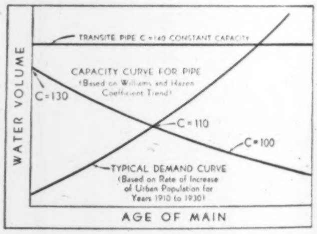
Transite Pipe is an asbestos-cement product. During manufacture, it is built up on a polished steel mandrel that imparts unusual smoothness to the interior wall. Its flow coefficient is conservatively estimated at C=140. This means that Transite water lines start with an exceptionally high carrying capacity.

Economies due to Freedom from Tuberculation

Transite's freedom from tuberculation means that pumping costs stay low, for pressures need not be increased to compensate for steadily decreasing flow coefficient and resulting loss of head in the line. Not only does this advantage provide worthwhile operating economies, but in many cases it also permits the use of smaller diameter pipe with resultant savings in all the numerous items that go to make up the original cost of completed water lines.

Tests conducted by the Pitometer Company on a typical Transite water line revealed a flow coefficient of C-145 in service.

In addition to sustained high carrying capacity, Transite Pipe has other advantages which contribute to more efficient, economical water transportation. In hundreds of American municipalities, it has also played an important part in bringing soil corrosion, joint leakage and electrolysis under control. And in every case low installation costs are assured because of Transite Pipe's long lengths and light weight, and the ease and speed with which Simplex Couplings are assembled.



As water demand progressively increases, carrying capacity of typical water mains is decreasing, thus necessitating cleaning or the providing of additional capacity. This fact definitely emphasizes the importance of Transite's high carrying capacity and immunity to tuberculation.

NOTE TO ENGINEERS: A much more complete discussion of the relationship between tuberculation, carrying capacity and pumping costs is given in the Transite Pressure Pipe brochure, TR-11A. A copy of this book will be sent on request. Johns-Manville, 22 East 40th Street, New York, N. Y.

Johns-Manville TRANSITE PIPE

For efficient, economical water and sewer lines

The Week In Engineering and Construction

ENGINEERING NEWS-RECORD • AUGUST 21, 1941

TVA to build Fontana Dam and distribute Alcoa power

Aluminum Company's dams on Little Tennessee watershed will be integrated with developments of Tennessee authority to improve power supply

TVA construction of the $50,000,000 Fontana Dam on the Little Tennessee River and integration of the operation of TVA's dam system with that of Aluminum Company of America's dam system on the Little Tennessee watershed is provided for in an agreement reached by TVA and Alcoa last week.

Alcoa has been attempting to perfect a right to the Fontana dam site during the past 25 years. A few months ago, when the Federal Power Commission ruled that a federal license must be obtained, Alcoa announced that it would welcome federal construction of the dam.

Under the agreement, title to the site goes to TVA, which will build the dam when it obtains the money from Congress. In return, TVA perpetually waives any claim against Alcoa for benefits accruing to other dams on the watershed resulting from operations of Fontana. Alcoa now has three dams on the Little Tennessee, two of them downstream from Fontana; two others—Nantahala and Glenville—are under construction on tributaries. Power generation at Glenville will start next month.

After Fontana is built, operation of the Alcoa dams will be subject to direction by TVA. Alcoa, however, will maintain title to, and actual operation of, the dams. Under this system, power generated at the Alcoa dams will be turned into the TVA lines, and in return, Alcoa will be entitled to draw an equivalent amount of firm power from TVA. In practice, this will work out so that the Little Tennessee dams will provide most of the power for the system during the summer dry spell, while the main river dams carry the load during the winter.

Fontana will be a 450-ft. high concrete structure of about 3,000,000 cu.yd. mass. It will store about 1,500,000 acre-ft. and add some 200,000 kw. to TVA's installed capacity. If construction starts at once, Fontana will store water in 1943 and generate power in 1944, at which time TVA's installed capacity will total 2,200,000 kw.

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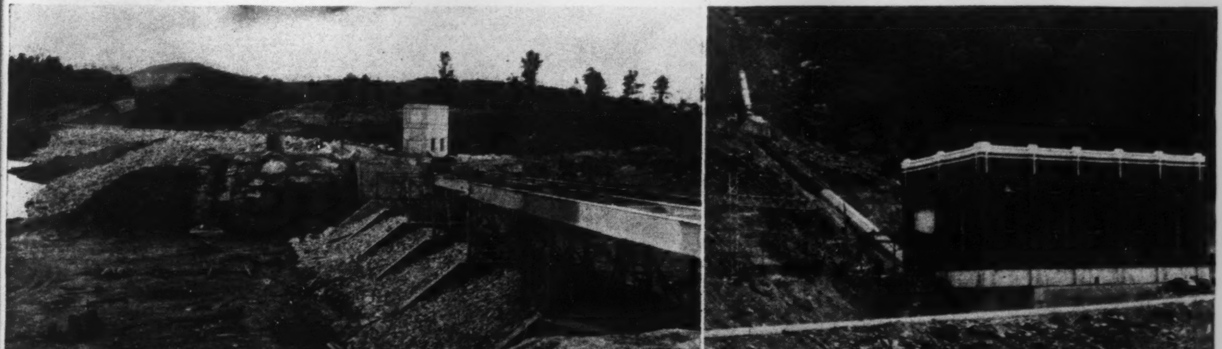
Senate reduces funds for strategic roads

A defense road bill reduced by $125,000,000 from the version vetoed by the President was passed by the Senate last week. The bill is now before the House, but action on it will be delayed by the recess until next month.

Biggest change is in the provision for improvement to the strategic network. Where the vetoed bill would have provided $125,000,000 to be allocated to the states under the federal aid formula, the present bill would provide only $75,000,000, of which $50,000,000 would be allocated while the remainder would be



Aluminum Company's Glenville Dam nearly ready to generate power

Located on the Tuckasegee River in western North Carolina, the rock-faced earthfill Glenville Dam of the Aluminum Company of America is to go into operation in September as one of Alcoa's dams integrated with the TVA system. The structure, 148 ft. high, will store 70,000 acre-ft., which will be used at four other Alcoa dams and all but Fort Loudon Dam of TVA's developments on the Tennessee River. Water will be discharged through 14,000 ft. of tunnel and an additional length of 6-ft. diameter steel penstock to a point about 6-river miles downstream. Here a 1,215-ft. head will be used to operate a 30,000-hp. impulse wheel. Shown at right is the power house and the penstock.

Contractor for the work is Morrison-Knudsen Co. for whom C. R. Shinn is superintendent and O. M. Strange, engineer. S. E. Bittner is resident engineer for the Aluminum Company.

distributed to especially important projects. This money would be matched by the states on a 75–25 basis.

This 75–25 basis would also be made to apply to existing regular federal-aid funds insofar as they are spent on projects on the strategic network. This feature was not included in the vetoed bill and the arrangement would apply to all unobligated federal-aid money.

The amount for access roads—entirely federally financed—is reduced to $100,000,000. Retained are sums of $10,000,000 for flight strips, unmatched by the states, and matched 50-50 for advance engineering studies of road improvements. Provision of federal aid to parking areas is dropped.

Mention of any specific sum with which to reimburse states for damages done to roads by military movements is omitted, but states are authorized to submit claims to PRA, which may request payment from Congress.

Legislative provisions permitting inclusion of right-of-way costs in federal aid projects, use of the rapid federal system of land condemnation, and inclusion of strategic network roads in the federal aid system are retained.

First projects approved in defense work program

First projects to be undertaken under the $150,000,000 defense public works program were approved by the President this week. This program, authorized by Congress nearly two months ago, is intended to provide community facilities for local governments whose resources are strained by defense expansion.

The first list consists of 26 projects costing a total of $5,765,531. Nearly half of this sum is in one project—a $2,240,000 waterworks improvement at Norfolk, Va. Of the remaining projects, eighteen are recreation and community buildings for the use of troops located near small communities. Entire cost of fifteen of these is being borne by the federal government.

Some local contribution is included on the remaining projects. Exact percentage, which varies from project to project, has not yet been announced and, in fact, is in most cases still under negotiation. The procedure being followed. of obtaining presidential approval before details of financing are worked out, obviously puts FWA in a stronger bargaining position in negotiating with local sponsors. Thus projects included on the present list might still fail to go through if sponsors and FWA fail to agree on distribution of cost.

Administration of the community facilities program is assigned by law to the Federal Works Agency. Technically speaking, it is being handled by a new defense public works division of FWA. However, this DPW is simply the old PWA under a new name. It is headed by PWA administrator M. E. Gilmore and is using the PWA staff. PWA as such still exists for legal purposes as a liquidation agency to wind up the last few projects in former work programs.

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Highest earthfill dam to be built in Idaho

Work is soon to begin by the Bureau of Reclamation on the south fork of the Boise River in Idaho, 25 miles southeast of Boise, Idaho, on an earthfill dam to be 444 ft. high above the lowest point in the needed cutoff trench. This will be the highest earth dam in the world, according to bureau engineers, and the fifth highest of any type, only Boulder, Shasta, Grand Coulee and France's Chambon dam being higher. The project will be for power, flood control, and irrigation purposes. The reservoir to be created by the dam will have a capacity of 500,000 acre-ft. The dam will be about 2,900 ft. thick at the base and will have a crest length of 1,350 ft.

Four contracting firms under a joint contract of $9,986,203 are doing the work. The four companies are: Morrison Knudsen Co., Boise, Idaho, and J. F. Shea Co., Ford J. Twaits Co., and Winston Brothers Co., all of Los Angeles, Cal.

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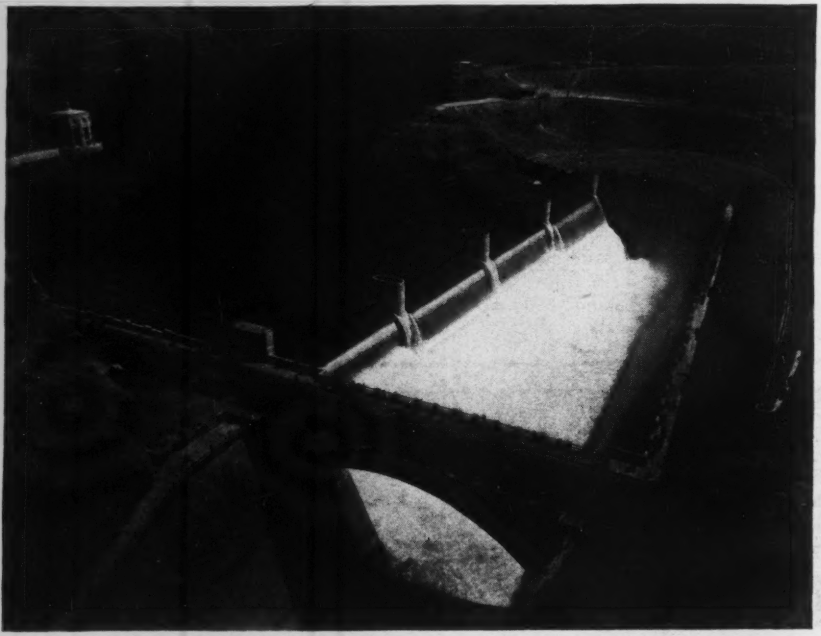
Navy construction work shared by 501 contractors

Construction contracts were divided among 501 contractors and several thousand subcontractors in the $656,659,000 program of the Bureau of Yards and Docks during the last fiscal year, distributed as in the following table.

Amount	**Number**
0–$25,000	123
$25,000–50,000	53
50,000–75,000	30
75,000–100,000	26
100,000–500,000	103
500,000–1,000,000	51
1,000,000–2,000,000	37
3,000,000–4,000,000	18
4,000,000–5,000,000	9
5,000,000–10,000,000	14
10,000,000–15,000,000	26
15,000,000–20,000,000	3
20,000,000–25,000,000	1
25,000,000–30,000,000	4
30,000,000–35,000,000	1
40,000,000–45,000,000	1



Lake Mead spills at Boulder Dam for first time

Early on the morning of Aug. 6, Lake Mead, the 115-mile long reservoir back of Boulder Dam, took its first spill after filling for 6½ years. The cascade of water was carried through the tunnels around the dam and emptied into the Colorado River below. For months the water had been lapping the edge of the spillway, at which level Lake Mead held nearly 31,000,000 acre-ft. of water.

To spill the water the four gates on the Arizona side, each 100 ft. long, were lowered permitting a discharge of 15,000 cu. ft. per second. The volume of water released was sufficient to test thoroughly the concrete spillway. For generating power, the discharge will total about 25,000 cu. ft. per second.

It is understood that releases will be continued until April of next year in order to lower the water in the reservoir for flood control in 1942.

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Priority ratings for defense housing still in confused state

Relief is granted to few large jobs by project ratings as OPM seeks control of priorities for this work

Government allocation among housebuilders of the increasingly scarce supply of building materials has been held up for nearly two months since the necessity of housing priorities was first announced by Housing Coordinator Palmer (*ENR*, July 3, 1941, p. 2). Reason for the delay appears to be partly sheer lack of staff to handle the job and partly dissension among defense agencies. Generally agreed upon is the principle that low-cost ($5,000-6,000) houses in defense areas should be given preference in materials to the exclusion of higher priced and otherwise located houses. But the precise machinery for handling this is in dispute. This plan was evolved in the office of the housing coordinator, but OPM considers that priority matters are entirely up to it. Mr. Palmer's plan provided for assignment of ratings by local representatives of his office, but the priority-granting power, for anything except munitions orders, has been rigidly restricted to OPM.

Meanwhile, rapidly as OPM's staff is being expanded, it is hardly equipped to handle the flood of paperwork that would follow introduction of a housing priority system. Recent extension of priority control to such basic commodities as copper and steel, plus the new rating plan for maintenance and repair facilities (*ENR*, Aug. 14, 1941), has seriously overloaded the priorities division of OPM.

Pending the working out of a definite system, relief is being granted to a few large housebuilders through the recently introduced project ratings (*ENR*, July 31, 1941, p. 140). These attach an appropriate rating to all purchases of critical list items for a particular defense construction project. This use of the project rating represents something of a departure from the original intention to restrict it to direct defense projects such as airbase and munitions plants.

Without doubt, some form of housing priority plan will emerge eventually, but whether it will be within a period of days or months is impossible to predict.

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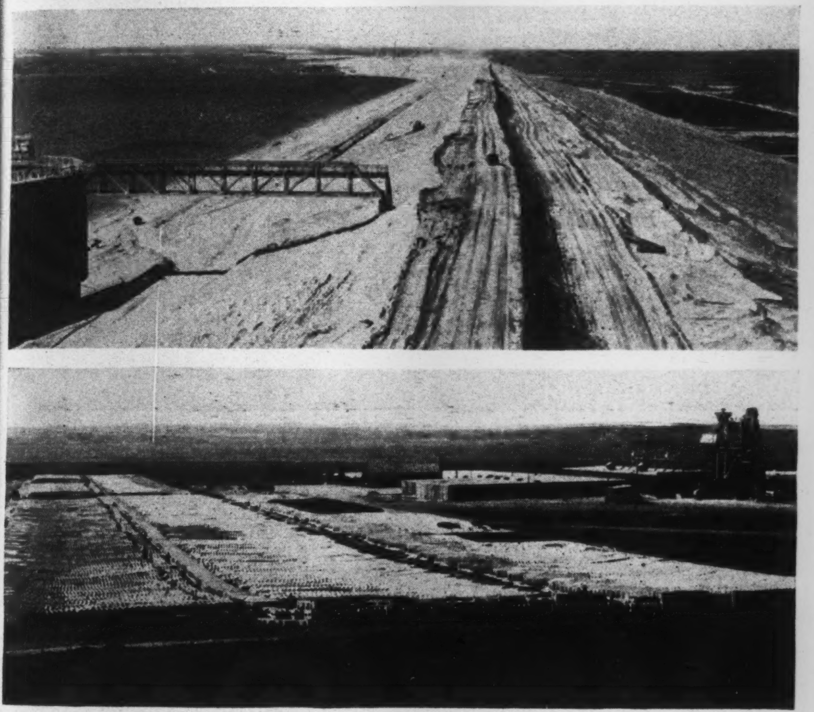


Photo: Portland Cement Association

Work on Kingsley Dam enters final stage

Work on Kingsley Dam, 26,000,000 cu.yd. hydraulic fill that forms the main reservoir for the power and irrigation canals of the Central Nebraska Public Power and Irrigation District, is nearing completion. All that remains to be done is construction of the wave wall, guard rail and roadway on the crest, completion of excavation for the emergency spillway through the hill at the south end of the dam, completion of the finish grading and laying of the precast concrete riprap that will protect the upstream slope against damage by wave action.

The dam is on the North Platte River near Ogallala, Neb. It is 10,700 ft. long at the crest and 162 ft. high.

Shown above is the dam as work on the fill nears completion, also the casting plant and curing yard for the manufacture of the reinforced-concrete blocks that are to be used to pave 450,000 sq.yd. of the upstream slope. Preliminary designs for the blocks to be used for the riprap were given in ENR July 14, 1938, p. 54.

The dam is being built under the direction of George E. Johnson, chief engineer and general manager for the district, and R. O. Green, assistant chief engineer and general manager. George N. Carter is resident engineer at the dam. Placing the wave wall and other related work in connection with completion of the dam is being done by the Platte Valley Construction Co. Contract for the hydraulic fill and emergency spillway is being completed by the Minneapolis Dredging Co.-Martin Wunderlich Co. Contract for manufacture of the riprap is held by A. H. Reed Co.

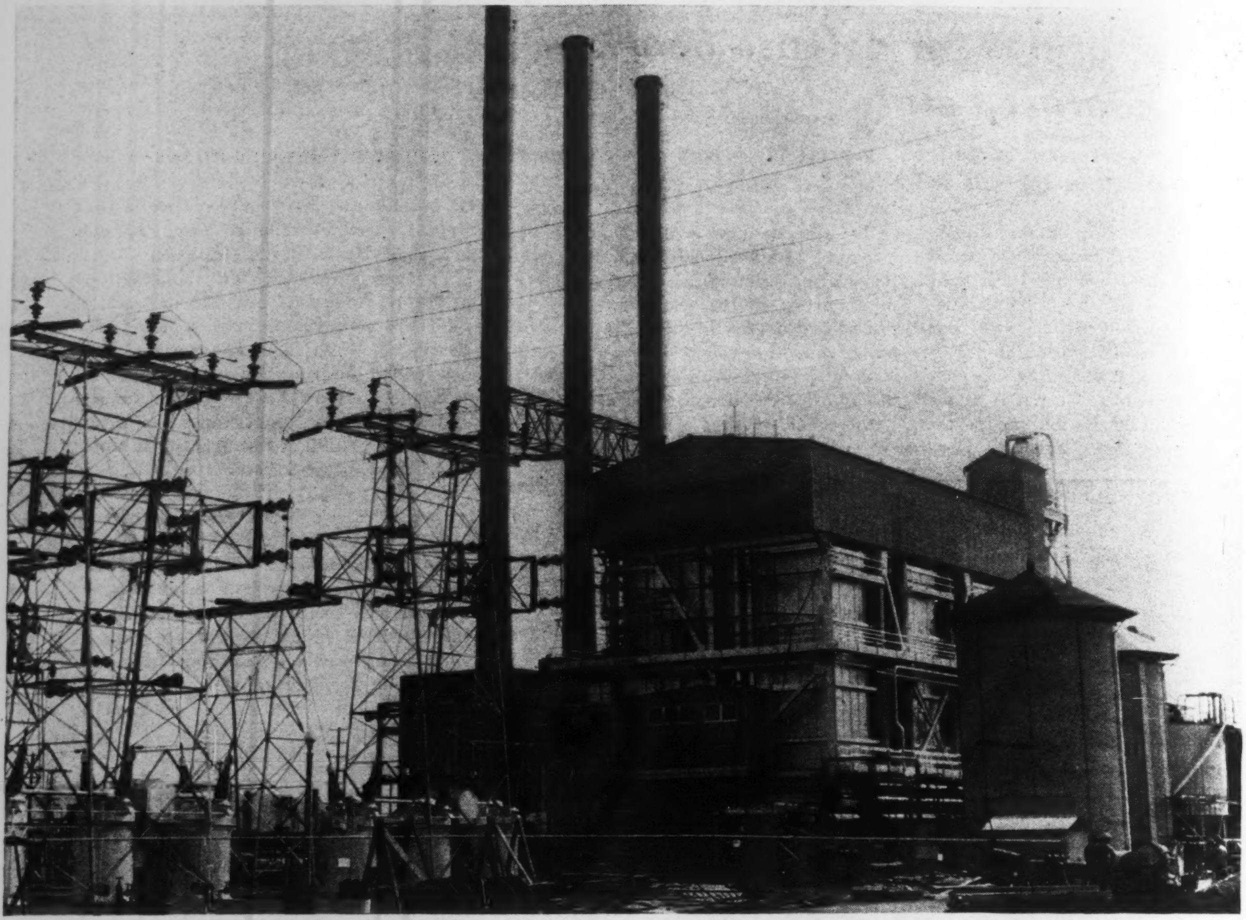
Pier cofferdam collapses at New London Bridge

One of the large cofferdams for the new highway bridge over the Thames River at New London, Conn., collapsed on August 12 while bracing was being put in place. One workman was killed and several injured.

Piers for the high-level highway bridge over the deep tidal estuary of the Thames River are being built upstream from the existing railway and highway bridges. The cofferdam in question was about 45x85 ft. in plan, and was built of steel sheetpiles sunk in about 40 ft. of water. Steel bearing piles to carry the pier had been driven within the cofferdam to rock at a depth of from 135 to 155 ft. below low water level, the bottom of the cofferdam had been sealed with a 21-ft. thickness of tremie concrete, the water level within the cofferdam had been lowered about 20 ft. and a steel bracing frame had been installed at this level. Two timber frames had also been installed at higher levels. Collapse was probably due to the failure of the steel frame which buckled upwards carrying away the wooden frames.

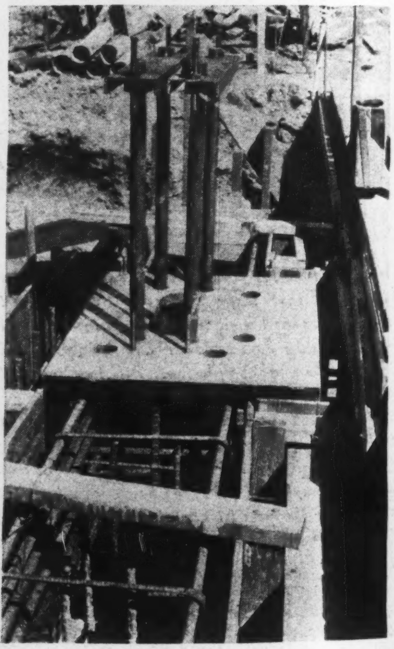
The bridge is being built by the Connecticut State Highway Department. The contractor is the A. I. Savin Construction Co., East Hartford.

Work on the bridge will not be delayed appreciably by the accident.

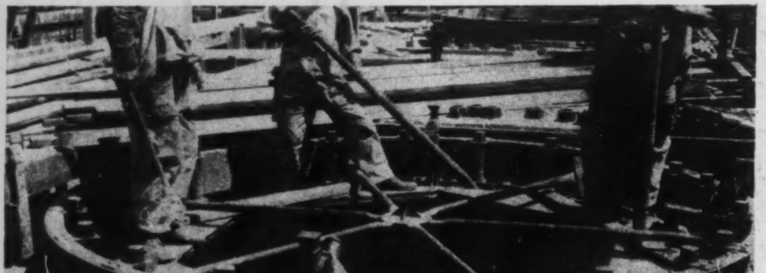


Three boilers, upright and rectangular in plan, have structural steel supports 75 ft. high surmounted by a canopy roof. In right foreground are fuel tanks.

Column bases are heavy steel plates welded to structural shapes that extend down into foundation concrete forms, as shown at the right. Careful levelling is facilitated by the central opening for grout in the steel plate.



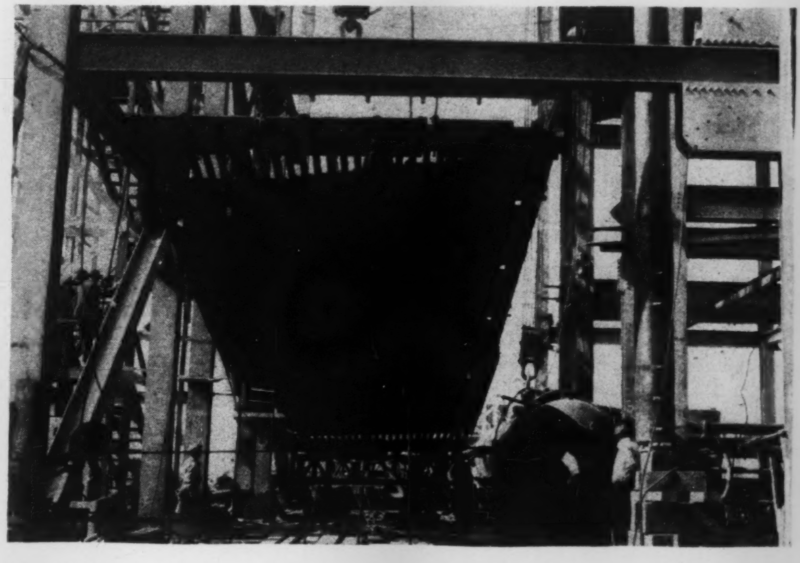
Spider that is serving here as a template for anchor bolts in the chimney foundation is also used at the steel mill for spacing bolt holes in the chimney's bottom course.



Building steam-electric plants to run on refinery by-products

Three steam-electric generating stations are being built on upper tidal waters of San Francisco Bay to supplement the power production system of the Pacific Gas and Electric Co. at three oil refineries where there is need for steam as well as for electrical energy and where several fuels are available as by-products of the oil refinery processes. This combination makes for some unusual power station features. The three plants are at refineries of the Associated Oil Co. (Avon), Shell Oil Co. (Martinez) and Union Oil Co. (Oleum). All are similar in capacity and general arrangement, although design had to be adapted to the foundation conditions.

In each plant there are three boilers each rated at 200,000 lb. of steam per hour (1,525 lb. per square inch at 950 deg. F.). The single 3,600-rpm. turbine at each plant consists of a high- and low-pressure unit on one shaft able to develop more than 50,000 kw. The generator is a 40,000-kw. (0.8 power factor), 3,600-rpm. hydrogen-cooled unit.

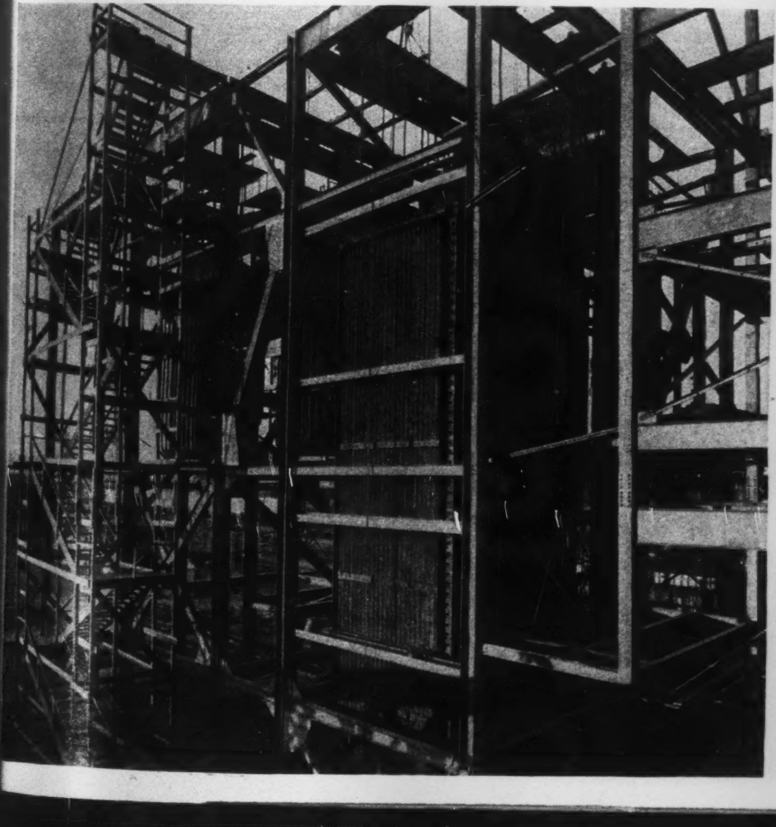


A panel of the furnace water-wall is raised to vertical position. Tubes are assembled in panels on the ground and refractory material is packed between them to make a tight wall.

Three stacks are used at each plant, made with butt-welded steel with a 4-in. lining of shotcrete. Test courses of non-corrosive steel were inserted in two stacks at each plant. At two of the plants the stack height is 200 ft. and at the third 250 ft.

The structure around the group of three boilers consists of heavy structural steel shapes supporting the boilers themselves, the steam drum and a heavy piping system above the tops of the boilers. The structure is designed for a horizontal force of 0.2 g. The sides of the steel structure are not housed in but a canopy roof protects the equipment on top of the boilers.

Fuels will be natural gas, oil, sludge (from the end of the oil refining cycle), pitch (from the end of the gasoline cracking cycle) and probably petroleum coke. The accompanying illustrations are all from the Avon plant.



Heavy steel framework nearing completion. One section of furnace water-walls in place, steam drum in position. Stairway at left is for construction only.

Carmody of FWA appoints Work Reserve directors

The first major step taken to get the Public Work Reserve organization under way and down to work was taken late in July, when FWA Administrator John M. Carmody appointed 35 state directors. These directors will be responsible for cooperative efforts in 39 states among local, county, state and federal officials in building up a national shelf of public work projects to absorb the economic shock in transition from the emergency to peace time.

PWR will prepare the groundwork not only on capital improvements but on various types of public services, which preliminary estimates indicate may total between 25 and 30 billion dollars in a six-year program (*ENR*, June 26, 1941, p. 975).

The first step in the PWR program is an inventory of the immediate and future needs of villages, towns, cities, counties, states and state authorities for the next six years. The inventory will be made up without regard to the method of financing, and without reference to the possibility or the methods of federal aid, which some of the proposed projects may require.

The regular public work program of the cities, counties and states under existing financial setups are to be included in the inventory, as well as the public works program of the federal government, so that a full picture of the present load, and the public needs to be met will be known. As projects "in work" are completed they will be removed from the inventory, and new improvements or services will be added as their need becomes apparent. PWR officials are conducting a series of conferences in various parts of the country with state directors, local representatives of federal departments and others to foster the necessary degree of cooperation to get the inventory under way. The fourth such conference is being held in New York City this week.

The state directors (see list), appointed by Administrator Carmody, will be directly responsible for the development of these programs in the states and areas to which they have been assigned.

State Directors appointed by Public Work Reserve

Arkansas (Little Rock)	Edward S. Dudley, WPA office engineer on road construction
Colorado and Wyoming*	Douglas H. Platt, WPA state field engineer at Denver
Florida (Jacksonville)	A. J. Little, WPA state administrator for Florida
Georgia (Atlanta)	John L. Peters, WPA field representative at Atlanta
Idaho*	Edward P. Horsfall, WPA state field engineer at Boise
Indiana (Indianapolis)	Virgil M. Simmons, special consultant, Federal Security Agency
Iowa (Des Moines)	Donald Tormey, WPA safety consultant for Iowa
Kansas (Topeka)	Lawrence F. Whearty, WPA manager for District No. 1
Louisiana (New Orleans)	A. J. Negrotto, general superintendent state-wide highway project in Louisiana
Michigan (Lansing)	Floyd S. Benjamin, manager, WPA District No. 1
Minnesota (St. Paul)	A. H. Douglass, assistant WPA district operations supervisor in Minnesota
Missouri (Jefferson City)	Howard C. Williams, manager for WPA District No. 2
Mississippi (Jackson)	Isaac S. Reed, WPA state planning engineer for Mississippi
Montana*	Martin Kelly, former traveling engineer for PWA
Nebraska (Lincoln)	Lloyd A. Woodward, engineer of Gage County, Neb.
New Jersey (Newark)	Joseph J. O'Loughlin, WPA assistant state director of operations division
New Mexico*	Richard Gardner, WPA state field engineer at Santa Fe
North Carolina (Raleigh)	James L. Hales, WPA field engineer
North Dakota (Bismarck)	Lee O. Hughes, WPA safety consultant in N. Dakota
Massachusetts*	Howard C. Williams, private practicing architect and engineer at Boston
Ohio (Columbus)	Frank L. Ritter, former engineer with Ohio highway department
Oregon*	Wallis W. Bartlett, WPA assistant civil engineer at Portland
Pennsylvania (Philadelphia)	E. K. Hunter, former partner in Michigan architectural firm of W. P. N. Hunter Co.
South Carolina (Columbia, S. C.)	Torrence G. Hanner, former WPA state supply manager for South Carolina
South Dakota (Mitchell)	John G. Dorsey, manager, Dakota Brewing Co., Huron
Tennessee (Nashville)	M. W. Snoderly, city manager of Johnson City, Tenn.
Texas (Dallas)	John C. Douglass, Chief engineer and business manager, southern division, National Gunite Contracting Co.
Utah*	T. H. Humphreys, for 8 yr. state engineer for Utah
West Virginia (Charleston)	S. Grover Smith, former director of WPA in District 6 in West Virginia
Virginia (Richmond)	Thomas H. Greene, WPA safety representative at Richmond
Washington*	John T. Burdett, WPA senior engineer at Seattle
Wisconsin (Milwaukee)	Leo J. Voell, former state WPA director for Wisconsin
Southern California and Arizona*	Albert J. Bateman, city engineer of Lynwood, Calif.
New Hampshire, Maine and Vermont*	James D. Cash, WPA construction superintendent
Illinois	Ross Caldwell, Illinois department of public works and buildings

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* In some cases headquarters have not yet been selected.

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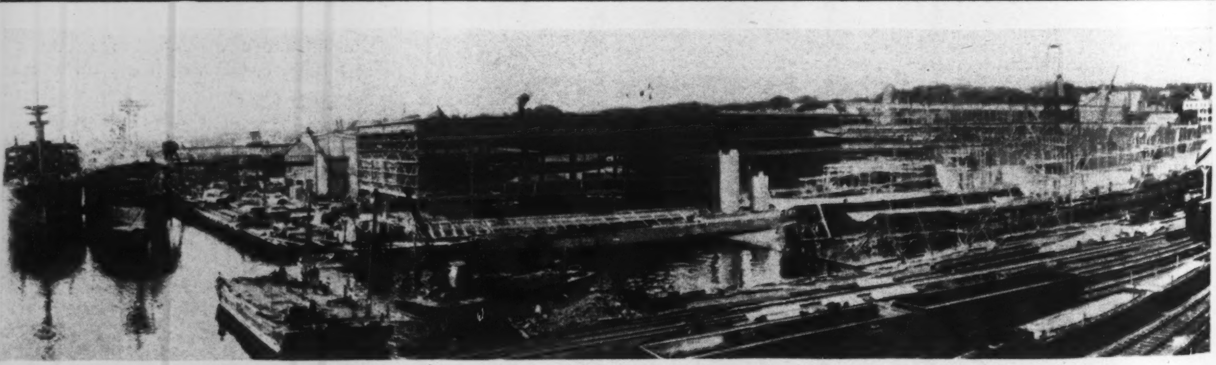
Army to construct four new cantonments

The War Department announced Aug. 14 that new cantonments are to be built in the vicinity of Fort Smith, Ark.; Santa Maria-Lompoc, Cal.; Neosho, Mo., and at Augusta, Ga. The four projects are estimated to cost $77,390.000.

The Fort Smith project will be to house 16.200 officers and enlisted men and will be basically for an armored division. The California camp will accommodate an armored division, an anti-tank battalion and necessary personnel. It is estimated that 16.200 officers and men will be stationed there.

An infantry replacement training center for 10.000 enlisted men and a Signal Corps replacement training center for 5.000 men will be established at Neosho, Mo. A motorized triangular division will be established in the cantonment at Augusta, Ga., which will have an approximate housing capacity of 18.000 officers and men.



New construction provides more shipways at Bath

Facilities are being increased at the Bath Iron Works Corp. plant at Bath, Me., for the construction of additional ships. The above pictures, taken from Highway U.S.1, show, left to right: new ships for the American Export Lines; drilling and dredging operations at new launching ways; steel nearly finished for two shop buildings, in background erection of a traveling gantry crane, and in the foreground keels, with some bulkheads in place, for two vessels being erected on the newly constructed ways.

The entire shipyard is jammed with construction, and working space along the waterfront appears to be at a premium.

Tacoma Bridge Authority settles insurance case

The Washington State Toll Bridge Authority last week accepted an insurance settlement of $4,000,000 for damage to the Tacoma Narrows suspension bridge, which collapsed Nov. 7 last year. The settlement was advanced by 23 underwriters. Governor Arthur B. Langlie points out that the agreement also includes salvage rights valued at $250,000, and full use of the remaining portions of the damaged structure, which are estimated at an additional $3,000,000.

The agreement apparently ends the litigation which began shortly after the bridge collapsed. The underwriters originally offered $1,800,000, but the state countered with a suit in Pierce County Superior Court demanding $5,200,000. The board of engineers that was appointed to act for the authority, including L. J. Sverdrup, Francis Donaldson and Russell G. Cone, unanimously recommended acceptance of the underwriters' offer. The engineer board pointed out that the piers, listed specifically as comparatively undamaged, towers and anchorages could be used in rebuilding. Cost of replacing the damaged structure had been estimated earlier this year by the board at $4,300,000. Charles E. Andrew, consulting engineer for the authority, also recommended acceptance of the underwriters' offer.

State engineers of Washington have announced that reconstruction of the crossing has been given favorable priority as a national defense link with the Puget Sound Navy Yard at Bremerton.

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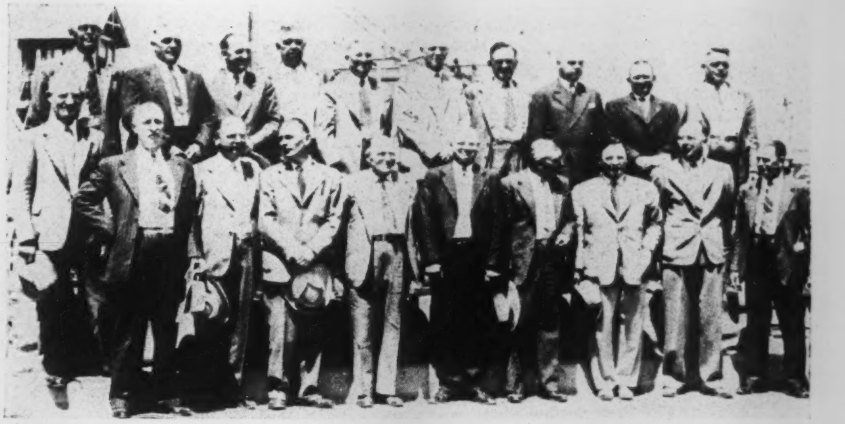

Wyoming engineers dedicate grade separation projects

Last month the above group of prominent engineers gathered at Rock Springs, Wyo. to dedicate three grade separation structures at that point. The projects included a vehicular and pedestrian overhead over the Union Pacific tracks, a vehicular and pedestrian underpass under the railroad and an 8x8 ft. pedestrian subway under the same railway.

Those in the back row, left to right, are: B. O. Wedge, division superintendent at Cheyenne for the Union Pacific; W. E. Taylor, commissioner at Midwest for the Wyoming highway department; E. D. Crippa, commissioner for the department at Rock Springs; Roy A. Klein, Public Roads Administration senior highway engineer at Denver; I. N. Bayless, general manager of the U. P. Coal Co., Rock Springs; Eugene McAuliffe, president of the coal company; Mayor Albert E. Nelson of Rock Springs; E. J. Conners, assistant to the president of the railroad; W. T. Nightingale, master of ceremonies for the dedication; and C. F. Seifried, chief engineer of the Wyoming highway department.

Those in the front row are, left to right: W. A. Beatty, bridge engineer for the Union Pacific; W. A. Muir, former mayor of Rock Springs; Jud Witherspoon, former commissioner of the Wyoming highway department; G. F. Schoonmaker, chairman of the Wyoming highway commission; Frank Kelso, superintendent of the Wyoming highway department; George B. Pryde, vice president of operations of the coal firm.

Contractors get part of Colorado road oiling

The long fight between Colorado State Highway Engineer Charles D. Vail and the Federal Bureau of Roads over the practice of oiling federal-aid roads with state forces was broken Aug. 8 with the award of two contracts for oiling. Federal officials insisted at least 50 percent of the oiling be done by contract; Vail has persisted in using state forces as "more efficient and cheaper."

The two contracts let include 20.6 miles of oiling on U. S. Route 6 over Vail Pass north of Leadville, awarded to Larson Const. Co., Denver, for $57,325 against an engineer's estimate of $50,102. The other contract, amounting to $31,307, was let to Edward Selander, Denver, for 8.5 miles of oiling on State Route 83 near Parker. The estimate on this section was $29,430.

State highway officials announced that 75 miles of oiling contracts would be let this year, not quite half of the current oiling program.

Contractors report the excess of bids over estimates, especially on the Vail Pass work, results from severe specifications calling for completion in 80 days and limiting the moisture content of materials. In the high mountains, they claim, daily rains and low night temperatures make working conditions difficult.

The state will watch the contract work with interest, a comparison in efficiency and cost between day labor and contract operations.

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Gen. Reybold to become chief of Army engineers

Brig. Gen. Eugene Reybold, now assistant chief of staff of G-4 for the Army, has been named to succeed Maj. Gen. Julian L. Schley Oct. 17 as chief of the U. S. Engineers. Gen. Reybold will be given the temporary rank of major general. Before serving as assistant G-4 chief he was division engineer for the southwest district for the engineers.

No information is available as to Gen. Schley's future assignment.

I.C.C. seeks to control size and weight of trucks

Regulation of the size and weight of trucks by the federal government was recommended to Congress by the Interstate Commerce Commission on August 14. The commission believes that the wide variations and inconsistencies in the limitations imposed by the state frequently result in unreasonable obstructions to interstate commerce. It holds that these could be removed under a system whereby the commission would ask the Public Roads Administration and the state highway departments to report to it concerning complaints as to such restrictions, and after hearings, the commission would set new limitations more in harmony with general practice if it found that increases would not have a detrimental effect on the highways of the state concerned.

The commission holds that national uniformity in size and weight limits is impracticable.

Substantial progress was made during the 1941 legislative year in removing low limits that proved to be bottlenecks, notably in Texas and Tennessee.

MEN AT WORK

A. D. WILDER (above), director of public works, San Francisco, casts a critical eye on street paving operations in Detroit. "Get any ideas for San Francisco, Al?"

Having just finished in fast time a 100 mi. 20-in. welded pipeline from Geneseo to Belvidere, Ill., LOY WILSON (above), Dempsey-Wilson Construction Co., Tulsa, Okla., is all set for his next big job.

Due to the absence of City Engineer James Wilson, W. B. ROBARDS (above) engineer of streets, was in charge of the city engineer's office at Louisville, Ky., when the editor recently paid his call. Mr. Robards has been with the city of Louisville for the past 5 years. Previous to that he was city engineer of Daytona Beach, Fla., and before that with the National Real Estate Development Co., Louisville.

J. A. JENSEN (left above), engineer of Minneapolis Water Works Department, shows off his new softening plant to a neighbor, LEONARD R. THOMPSON, general superintendent, St. Paul Water Department.

Following 14½ yr. with the Delaware highway department, JOSEPH P. HOSKINS (right) joined Hercules Powder in 1939. He is now division engineer of outside lines at the Radford (Va.) Ordnance works for Hercules.

G. E. MURPHEY (left of two at right) construction superintendent, and LEE G. WARREN, project manager, at the Tennessee Valley Authority's Cherokee Dam, slow down rush production long enough to have their pictures taken.

PRIORITIES GUIDEPOST

Current notes on what, who and how

A NUMBER of items important to construction have recently been added to the priorities critical list. This indicates that these commodities are becoming scarce, that ratings will automatically be attached to Army and Navy orders for them, and that contractors with jobs having priority ratings may use the ratings in buying these items. Additions to the list include: asbestos roofing, siding, pipe, and pipe covering; ditchers; steam engines of all types; business machines; electric motors, including fractional horsepower; rock crushers, rock drills, and conveyors; rollers, 7-ton and larger; power shovels; and tractors for use in construction.

USE of the recently revised construction project priority rating (*ENR*, Aug. 14, 1941), has been extended by OPM to cover the needs of municipalities building essential civilian services. Original intention in setting up the P-19 project ratings was to restrict them to direct defense work, but this intention has been abandoned. Not only is it being applied to such marginal defense work as housing (see page 3) but it is now being used for admittedly non-defense projects which are essential to maintenance of community life. In this latter case, ratings are granted through the Office of Price Administration and Civilian Supply. The agency desiring the rating applies to Joseph Weiner of OPACS, who passes on the application and makes an appropriate recommendation to the priorities division of OPM, where the actual rating is issued. First such ratings for municipal work were granted this week on eight major New York City projects, including a $2,650,000 hospital; sewage treatment plant in Brooklyn, Jamaica and Coney Island; the Brooklyn terminal market; and a new enclosed retail market. These projects received a rating of B-1. Effect of this rating is to put orders for items on the critical list which are needed for the projects ahead of other civilian orders but behind all defense orders. Thus the rating would offer little help on items which are really scarce such as aluminum or nickel.

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Price ceiling set for southern pine lumber

Southern pine lumber was subjected to formal price control last week at price levels about $3 per thousand board feet below those currently prevailing. The ceilings set by Price Administrator Leon Henderson become effective Sept. 5, and by that time or shortly thereafter similar ceilings will be established for Douglas fir. Lumber prices have been rising since June, according to Henderson, until No. 2 common reached $30 per thousand, f.o.b. mill. The new schedule would cut this to $26.50.

For the present, the ceiling applies only to prices at mills or concentration yards, but if retail prices get out of line they will be controlled. Prices are established for sidings, ceilings, flooring, finish, boards, shiplap, fencing dimensions and small timbers. Large timbers are not included. No distinction is made between longleaf and shortleaf. Delivered prices may not exceed scheduled price plus actual transportation charges.

The schedules are established in great detail for various grades. Siding ranges from $47 for Grade B bevel to $20 for 4-in. drop. Price of 1x6-in. boards, shiplap, and fencing, in 14-ft. lengths, is $31 for No. 1; $26.50 for No. 2 and $16 to $21 for No. 3 random lengths. As for dimension lumber, 2x4's are set at $28.50 for No. 1; $26 for No. 2; and $18.50 to $20.00 for No. 3.

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Flood control bill passed; President stresses defense

The flood control authorization bill, as signed by the President, has no restriction as to the defense nature of projects to be undertaken under the bill. The President, in a note to Congress, had asked that a clause be written into the bill postponing until after the emergency all the authorized projects except those which he might certify as important to defense. The Senate committee, however, voted not to insert such a clause. In signing the bill, the President said that he would not submit appropriation requests or approve allocations for authorized non-defense projects.

As passed, the bill followed the version passed by the House (*ENR*, July 10, p 63), except that the Senate added projects costing $12,322,000. Largest was a $7,000,000 increase in the authorized cost of the Red River backwater protection works in the lower Mississippi project, raising this item to $14,000,000.

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Construction costs high on army cantonments

Construction cost per man on the nine army camps investigated by the special Senate committee was $702.41, compared to an original estimate of $320, according to Senator Harry S. Truman, chairman of the committee. The nine camps were: Fort Leonard Wood, Mo.; Fort Meade, Md.; Indiantown Gap, Pa.; Camp Blanding, Fla.; Camp Stewart, Ga.; Camp Hulen, Tex.; Camp Wallace, Tex.; Camp Davis, N. C.; and Camp Luis Obispo, Calif. The Senate criticized the War Department for making no allowances in its original estimates for recreational facilities, sewage treatment plants, or roads.

Jefferson Memorial construction to be completed Sept. 1

All heavy construction and grading work for the $3,000,000 Jefferson Memorial in Washington, D. C., will be completed Sept. 1, according to engineers for the general contractor, John McShain, Philadelphia. Remaining work includes only the landscaping and installation of the statue.

Construction of the memorial was begun in December 1938 and the work is being done by National Capital Parks, F. F. Gillen, acting director. Eggers & Higgins, New York, were the architects, and Elwyn E. Seelye, New York, structural engineer for the job and consultant for the foundations for which John Monks & Sons, New York, were engineers. Raymond Concrete Pile Co., New York, built the foundation to ground level, where McShain took over the work.

For additional details of construction and design see ENR Nov. 28, 1940, page 715.

MEN AND JOBS

Glenn P. Manz has been appointed city engineer of Lansing, Mich., replacing **C. S. Jacka,** city engineer since 1933, who will take an active part in the Francis Engineering Co., Saginaw, Mich., in which he has been a partner for several years. Mr. Manz has been with the City of Lansing since 1924, except for one year spent in private work on sewer and pavement construction, and one year of municipal pavement design with the Michigan State Highway Department. He was assistant city engineer in charge of pavement construction and repair from 1936 until his new appointment became effective. Other changes in the Lansing office are as follows: **Marion Landon** has taken a position with the Francis Engineering Co. at Saginaw. He had been in charge of surveys and plans, and has been replaced by **Melville Keyes,** who has been with the department since 1931. **Norman Sageman** has left to take a position with the U. S. Army Engineers as a civilian engineer, and to date his position has not been filled.

G. P. MANZ

Governor Robert A. Hurley of Connecticut has nominated **William J. Cox** to succeed himself for another term as state highway commissioner. His present term expires July 1. Governor Hurley also nominated **George L. Burke** to a new term as commissioner of public works. Mr. Burke's appointment on Jan. 8 was to fill out the unexpired term of Mr. Hurley, which terminated July 1.

William H. Carson, dean of the Unisersity of Oklahoma, has been appointed manager of the defense contract area for the OPM at Oklahoma City. Dean Carson is the head of the School of Engineering of the University and has been a member of the school faculty for the past eleven years. He is on leave of absence for this defense job. **W. L. Ducker,** of Tulsa, Okla., has been appointed field engineer in the same office.

Charles B. Bennett, city planning engineer of Milwaukee since 1926, has accepted a similar position in Los Angeles, Calif.

William J. Pathman has recently resigned his position as junior highway engineer for the state of Illinois in the Illinois Highway Department and accepted a position as junior engineer in the War Department, U. S. Engineer Office at Tulsa, Okla. Mr. Pathman is a recent civil engineering graduate from the University of Illinois.

Albert Bateman, Los Angeles engineer, has been named by Federal Works Administrator John M. Carmody of Washington to head the Southern California and Arizona district of the Public Work Reserve.

William S. Coburn, of Staunton, Va., has been chosen to serve as road engineer of Augusta County. He is authorized to approve applications for subdivision roads before they are submitted to the county clerk to be platted.

Maj. W. W. Wanamaker, assistant Southwestern Division Engineer, U. S. Engineers, at Dallas, has been designated as the new Denison, Tex., district engineer to succeed **Maj. Gordon E. Textor,** at present a patient in Walter Reed Hospital, in Washington. **Maj. Roland C. Brown,** who has been acting in the place of Major Textor since his illness, was transferred Aug. 15 to Auburn (Ala.) Polytechnical Institute as assistant professor of military science. Major Textor was one of the Army engineers on the bomber assembly plant being built at Fort Worth, Tex. The district is constructing a $54,000,000 power and flood control dam on the Red River.

J. J. Wardrip, of Elk County, has become county engineer of Neosho County.

Pennsylvania's department of highways has announced the appointments of **Edgar H. Hewitt,** of Philipsburg, as resident engineer, District No. 2 with headquarters at Clearfield; and of **Paul E. Conn,** of Point Marion, as project engineer, District No. 12, at Uniontown.

Swan McDonald, formerly attached to the Moberly, Mo., district office of WPA, has been appointed director of operations for the St. Louis district to succeed **John O'Neil,** who became chief area engineer for the new St. Louis District effective July 15.

Gene Worthington, who has been associated with the Georgia highway department for the past four years, is with TVA at Chattanooga.

C. Blake Jackson, of Toronto, Ontario, past president of the Canadian Construction Association and also of the Builders' Exchange, has been made deputy priorities official and assistant director-general of the priorities branch, Department of Munitions and Supply.

Reeves Newsom, engineer consultant of New York, has announced that **E. H. Aldrich,** his principal associate since early in 1938, has become his partner in the firm of Newsom and Aldrich. Mr. Aldrich, a graduate of Beloit and the University of Illinois, has for over twenty years been active in the fields of sewerage and water supply. He has at various times been associated with Morris Knowles, Inc., Nicholas S. Hill, Jr., and Malcom Pirnie. He was chief civil engineer of the Community Water Service Co. Mr. Aldrich also spent a period of time as consulting engineer for Lingnan University, Canton, China, in the design and construction of water works.

R. H. Willcomb has recently been named division engineer of the state highway department at Lewistown, Mont. Mr. Willcomb was formerly executive secretary of the Parkdale Housing project at Great Falls, Mont. In this position he was succeeded by **Harry H. Olson,** project manager and executive director of the project.

Harry B. Lose has been appointed superintendent of construction for Koppers Co., engineering and construction division, Pittsburgh, succeeding Roy L. Smith, who died recently. Mr. Lose, who was formerly assistant superintendent, obtained his technical training at Carnegie Institute of Technology. He entered the surveying department of the Pennsylvania R. R. Co. in 1913 and joined Koppers Co. three years later as a layout engineer. After leaving to become construction manager for the Rust Engineering Co. from 1928 to 1930, he returned to the Koppers engineering and construction division as an erecting engineer. Later he went to the Philadelphia Coke Co., a Koppers affiliate, where he was manager of the wholesale coke sales department from 1934 to 1937, when he returned to his former division as assistant superintendent of construction.

H. B. LOSE

James L. Farrell is now supervising engineer for the Reconstruction Finance Corp. of the 40-million dollar airplane engine plant now being built at Cincinnati, Ohio, for the Wright Aeronautical Corp. He succeeds **R. H. Dailey,** who has been transferred to the Ford Motor Co. bomber assembly plant now under construction by the Defense Plant Corp. Mr. Farrell was previously with PWA.

Carey takes top post of big utilities corporation

William F. Carey, commissioner of sanitation in New York City since 1936, was elected chief executive of the International Utilities Corp. on Aug. 6. In taking over this new activity in a utility company, which operates some 150 water, electric and gas properties in the United States and Canada, Mr. Carey denied reports that he would relinquish his post as sanitation commissioner.

Long active in the engineering-construction field, Mr. Carey at 24 was a general superintendent on the Chicago Drainage Canal and later supervised excavation work on the Panama Canal. Following this he engaged in many major construction projects involving railroads, dredging, industrial building and housing operations both in this country and in South America.

Introducer of the land fill system of refuse disposal by which New York City is effecting savings of nearly $1,000,000 annually, besides reclaiming useless marsh land areas, Commissioner Carey's methods were the subject of national comment and bitter local controversy, resulting in indictments because of an alleged public health menace. A committee of sanitation experts appointed by the U.S. Surgeon-General investigated the refuse land fill operations, endorsed the practice, and the indictments were dropped. (*ENR*, March 28, 1940, p. 446).

Recently, Mr. Carey has been serving as a special adviser in the construction division of the OPM. In connection with these duties he has surveyed construction practice at army cantonments and is assisting in the planning of construction at the Trinidad defense base.

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Toll road planned through the Pocono Mountains

A bill authorizing the construction of a toll road in the Pocono Mountains through the Pennsylvania counties of Monroe, Northampton, Carbon, Luzerne, Lackawanna, Wayne, and Pike, to be known as the "Rim Parkway" has been signed by Governor Arthur H. James. The proposed road would be about 60 miles in length.

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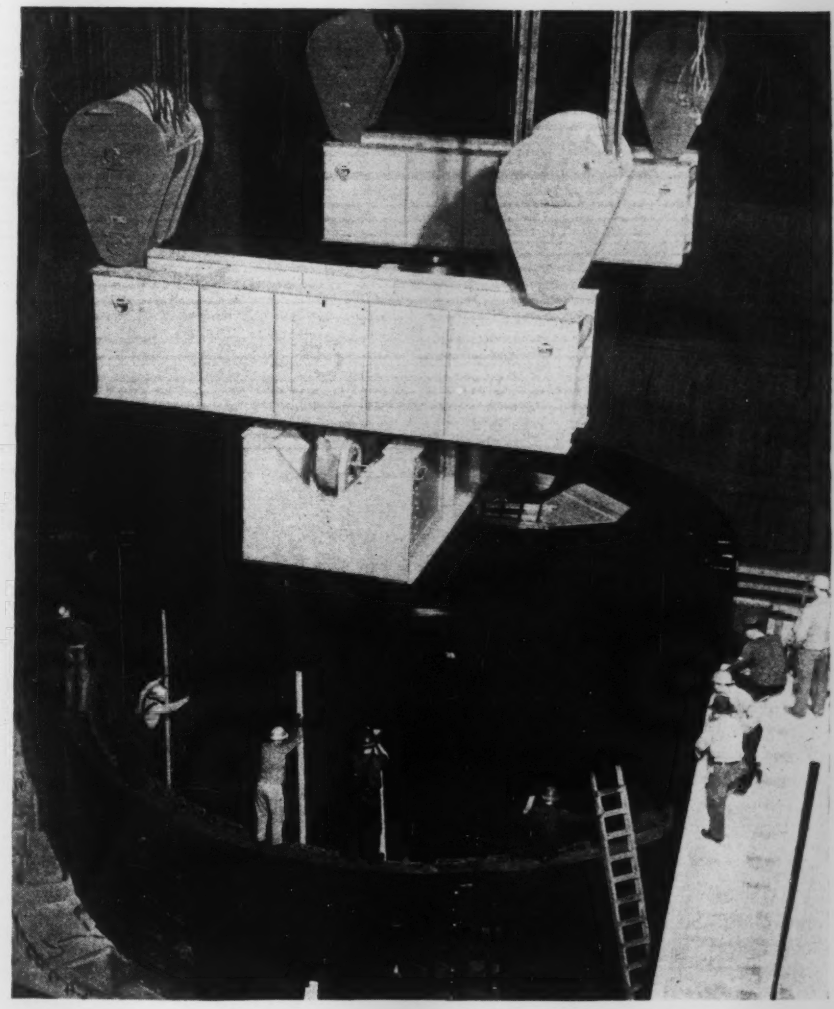
Tennessee-North Carolina super-highway planned

W. Vance Baise, chief engineer of the North Carolina Highway and Public Works Commission, announces that at the request of federal officials, his department has completed preliminary plans for the construction of a $40,000,000 four-lane super-highway connecting Knoxville, Tenn., with Charlotte, N. C.

The proposed route for the highway would by-pass most of the small towns and would provide a fast route across the mountains, which would facilitate the movement of troops and equipment to meet national defense needs.

The route of the proposed highway as mapped by Chief Engineer Baise would be entirely new from Charlotte to Newport, Tenn. The highway would overpass or underpass all railroads and would have "butterfly" connections at all highway intersections. It would cross the mountains near Marshall, N. C., and would require some tunneling.



Grand Coulee cranes set a 527-ton rotor

Some time this month the first of the 108,000 kw. generators at Grand Coulee Dam will go into service. Here shown are the two 350-ton powerhouse cranes setting the 527-ton rotor of that unit into place. Two similar units are being assembled and will go into service soon, one in December and one in March. Ultimately the powerhouses will have 18 units of 108,000 kw. each, also three 10,000 kw. station service generators. The Coulee generators and the 150-000-hp. hydraulic turbines that drive them are nearly one-third larger than any hydro-electric power unit built heretofore.

The generators are being built by the Westinghouse Electric & Manufacturing Co. and the turbines by Newport News Shipbuilding and Drydock Co. Bids on three more 108,000-kw. generators have just been received by the U. S. Bureau of Reclamation.

Earl B. Lockridge called to Army service

Earl B. Lockridge, chief engineer of the Indiana State Highway Commission, has been ordered to report to the U. S. Army to assume the duties of assistant to the constructing quartermaster of the fifth zone. His successor to the post has not yet been named.

Mr. Lockridge has been with the Indiana State Highway Department for almost 22 years, having served in various capacities, the latest being engineer of construction.

Bids on Granby Dam to be opened Aug. 28

Bids for the Granby Dam of the Colorado-Big Thompson project will be received at 10 a.m. Aug. 28, by the U. S. Bureau of Reclamation at Denver, Colo. The dam, located on the Colorado River five miles north of Granby, Colo., will be the third major element of this big irrigation and power project to be started. Green Mountain Dam, for a compensating reservoir on the Blue River, and the 13-mile Continental Divide tunnel are now under way.

Granby Dam will be about 300 ft. high, and will require 3,200,000 cu.yd. of rolled fill, 800,000 cu.yd. of rock fill in the downstream section and use of 120,000 cu.yd. of riprap. River diversion will be through an 11½-ft. diameter outlet tunnel 1,000 ft. long. The contractor will have 1,140 calendar days for completion. The bureau has applied for a priority on the project, but none has been granted yet.

Cleve H. Howell, project engineer for the Colorado-Big Thompson project will be in general charge, under the direction of S. O. Harper, chief engineer, and Walker R. Young, assistant chief.

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Gerald V. Cruise named to New York Power Authority

Gerald V. Cruise, executive secretary and acting chief engineer of the Power Authority of the state of New York, has been named by Governor Lehman to fill the existing vacancy on the board of trustees of the authority. Mr. Cruise has been on the authority's staff since 1935.

Mr. Cruise graduated as a civil engineer from Manhattan College in 1916, and until he entered the Army for service in the World War was with the J. G. White Engineering Corp. on steam plant construction. Subsequent to the war he was construction supervisor on electrical installations at the Hell Gate Power Station, New York, for a time, and then was for four years an assistant hydraulic engineer with the Electric Bond & Share Co. Subsequently Mr. Cruise was with Stevens and Wood on studies of power system economics, during which period he prepared a report for the board of transportation of the city of New York on power supply for the Independent Subway System.

Mr. Cruise was appointed engineering consultant to the Power Authority in 1935, and since 1939 has been acting chief engineer and executive secretary. In 1939-40 he was a member of the engineering board set up in connection with the new studies of the St. Lawrence seaway and power project, and later represented the Power Authority on the St. Lawrence Advisory Committee.

JOBS OF THE WEEK

STORAGE DEPOT, Lexington, Ky.
Constructing Quartermasters Office, McClelland Bldg., Lexington, awarded a contract for a Signal Corps storage depot, three warehouses, five miscellaneous buildings, a heating plant, a steam distribution system, railroads and water supply and sewage disposal systems to Frank Masser & Sons, Inc., Cincinnati, Ohio. Total cost of the work is estimated at $2,000,000.

DEFENSE HOUSING, Pittsburgh, Pa.
Starrett & Sons, Chicago, Ill. and Pantarelli & Sons, Chicago have been awarded a $3,894,983 contract for construction of the 1,000-family Glen Hazel Heights defense housing project in Pittsburgh. The work is being done for the Federal Works Agency by the Allegheny County Housing Authority.

FLYING SCHOOL, Lake Charles, La.
U. S. Engineers, Washington, D. C. have awarded a $1,604,236 contract to T. L. James & Co., Inc., Ruston, La. for an advanced flying school, which includes 125 temporary buildings, fencing, railroad spur, roads and utilities.

TOLUENE PLANT, Wood River, Ill.
Shell Oil Co., New York, N. Y. awarded the contract for a toluene plant, which is estimated to cost $1,000,000, to Fluor Corp. and C. F. Braun Co., Alhambra, Calif.

KESWICK DAM, Sacramento River, Calif.
Guy F. Atkinson Co., San Francisco and W. E. Kier Construction Co., San Diego, were awarded a $2,736,628 contract for the first part of the Keswick Dam project, which is downstream of the Shasta Dam project. Total estimated cost of the project is $12,500,000. The work is being done by the Bureau of Reclamation.

MANUFACTURING PLANT, St. Louis, Mo.
McQuay-Norris Mfg. Co., St. Louis awarded a contract for the construction of a plant to manufacture armor piercing cores for small arms ammunition to Fruin-Colnon Contracting Co., St. Louis. The plant is to be built in the vicinity of Goodfellow and Bricher Blvds. for the War Department. The project is expected to cost $2,961,000 for construction and $4,461,000 for equipment.

BLUFF CREEK RESERVOIR DAM, Oklahoma City, Okla.
When bids were opened Aug. 12 S. J. Grove, James Bass & Co. and Ottinger Bros. Co., Oklahoma City, were low bidders with a bid of $3,787,443 for construction of the diversion works, canal, siphon and earthen dam for the Bluff Creek Reservoir project. The engineers estimate for the job was $2,946,000.

MARIETTA STORAGE YARDS, Marietta, Pa.
Brann and Stuart & Co., Philadelphia, will build a general storage depot, including six warehouses, six miscellaneous structures, railroads and necessary utilities for the War Department. The estimated construction cost is $5,000,000.

IMPROVING PARKWAY, Harrison, N. Y.
Rusciano & Son Corp., New York, N. Y. was low bidder for improving the Hutchinson River Parkway, when bids were opened July 29 by the Westchester Cross County Parkway Authority at White Plains, N. Y. The successful bid was $1,093,953.

HOUSING PROJECT, Wichita, Kansas
Southern Mill & Mfg. Co., Tulsa, Okla., has been awarded contract for constructing 600-dwelling housing project for the Federal Works Agency, Washington, D. C. The successful bid was $1,510,904.

NOTE—Additional bidding and contract news on over 800 projects large and small appear in the Construction News Section beginning on page 16.

Lake Washington Bridge tolls exceed year's debt

Revenue produced by the Lake Washington concrete pontoon bridge at Seattle will exceed by a comfortable margin the full requirements of debt service and amortized bond retirement called for during the first full fiscal year of its operation, it became apparent last week.

Full service charges for the year, including interest payments at the rate of 3 and 3¼ percent, and retirement of $145,000 of bonds, the first to be called, will amount to $421,562. Revenue from tolls during the first 11 months of operation was nearly $421,562. Tolls during August are expected to add an additional $59,000.

Contributing importantly to the rise in receipts is new travel created by defense shipyard development across Lake Washington from Seattle. Heaviest travel over the bridge occurred during the first month of operation, when sightseers boosted tolls to $60,018. Normal traffic now is approaching and soon may exceed that figure, according to the Washington State Toll Bridge Authority.

No serious consideration yet has been given to a reduction in tolls, however, according to James A. Davis, assistant state highway director.

Civil engineer heads Canadian defense board

R. E. Jamieson, professor of civil engineering and chairman of the department of civil engineering and applied mechanics at McGill University, has been made director-general of a new Army engineering design branch of the Department of Munitions & Supplies of the Canadian Government.

Professor Jamieson will assist a special inter-departmental advisory committee on Army engineering design.

A native of Ottawa, Professor Jamieson received his bachelor of science degree from McGill University in 1913. and saw services overseas in the World war as a lieutenant in the Canadian Siege Artillery from 1916 to 1918. After the war he took a post-graduate course in engineering at McGill University and obtained his Master's degree in 1920. On completion of his studies he joined the engineering faculty at McGill and has since held a teaching chair in that department. In 1931 he was appointed William Scott Professor of Civil Engineering and chairman of the department.

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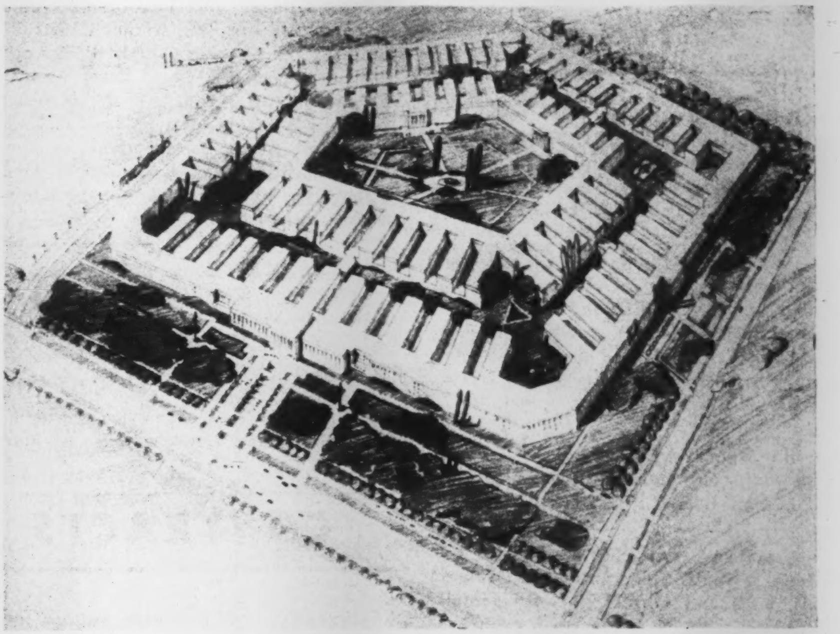


Washington building to provide 4,000,000 sq.ft. of space

What is believed to be the largest office building known, providing 4,000,000 sq.ft. of space, is to be built by the War Department under a $35,000,000 appropriation, which has been approved by the lower branch of Congress. The proposed site for the new structure will be in Arlington County, Va. across the Potomac from Washington. Authorization of funds for construction of the new building was inserted in the supplemental defense bill passed by the House and now being studied by the Senate Appropriations Committee.

The illustration above shows a design study for the new structure. It is intended to start construction within two weeks after the money becomes available, awarding a cost-plus-fixed-fee contract. Final designs will be made as the work progresses. Responsibility for design of the structure is in the hands of the architectural section of the construction division of the Quartermaster Corps, a section headed by George E. Bergstrom, immediate past president of the American Institute of Architects.

The new building is to be a three-story structure of reinforced concrete construction, probably faced with brick. It will use escalators instead of elevators, will be air-conditioned and will have taxi and bus terminals in the basement. Initially the building will house 30,000 people, but can be expanded to 40,000.

General Brehon D. Somervell, head of the construction division of the Quartermaster Corps, expects to have the first half million square feet of space ready to use within six months and the entire building complete within a year.

First unit of a new building intended to house the War Department is just now being completed in the District of Columbia by the Public Buildings Administration. It is understood that this building will be turned over to the Navy.

Bid rejections increase on defense housing work

The growing number of uncertain factors affecting housing construction has boosted bids on defense housing work to such an extent that the Federal Works Agency is finding it necessary to reject bids much more frequently to stay within the $3,000 limit for frame construction and the $3,500 limit for brick or masonry, as required by the Lanham Act.

USHA also has had more bid rejections during the past sixty days than during the previous three years, although the number is still small, according to A. C. Shire, director of the technical section. In contrast, Allen W. Stevens, formerly with the PBA and now working with a small special group known as Construction Division of Prefabricated and Demountable Housing, reports that by careful selection of firms and by negotiating contracts it has not been necessary to seek new bidders on any of his jobs. Mr. Stevens does point out, however, that the contractor on a California project of over 1,000 units found that shortage of materials and increases in other factors have increased the cost of that project by $162 per unit. PBA has used negotiated contracts until recently, but when it started taking bids about a third of them proved too high.

On the permanent defense housing projects being carried out by FWA's Division of Defense Housing, it had been necessary as of Aug. 6 to reject bids for nine out of twelve jobs in Connecticut and two out of eleven in Pennsylvania. These twenty-three jobs form the major part of that department's permanent construction. However, by second openings and elimination of certain parts of the work it has been possible to get bids within the cost range desired, as shown by the accompanying table.

The two major reasons for higher bids and more rejections have been (1) uncertainties as to wage rates and supply and (2) availability of materials.

Steps being studied for possible reduction of bid rejections include: better priority help for defense housing, use of cost-plus contracts, mass government purchase of housing materials, and substitution of materials.

Comparison of first and second bids on permanent housing being carried out by FWA Division of Defense Housing:

Job	**No. of Units**	**First Bid**	**Second and Approved Bid**	**Architect's Estimate**
East Hartford, Conn.	500	$1,979,000	$1,853,145	$1,814,400
Windsor Locks, Conn.	85	367,105	302,298	308,155
Fairfield, Conn.	200	874,000	784,450	722,400
Bantam, Conn.	40	159,893	149,997	135,894
Pittsburgh, Pa.	1000	5,073,916	4,460,404	4,340,487

NOTE—*Certain eliminations and concessions were necessary in getting second bid reduced for above projects.*

OBITUARY

Edward Montgomery, 45, superintendent of the water department of Cuyahoga Falls, Ohio, for the past 8 years, died Aug. 1 at Akron, Ohio.

Alfred R. Putnam, hydraulic and sanitary engineer of Valparaiso, Ind., died July 29 at Benton Harbor, Mich. Mr. Putnam was a civil engineering graduate and designed the sewer system for the city of Valparaiso. He was 64 years old.

Birdwell Finlayson, 47, well known building contractor of Idaho, died Aug. 2 at Salt Lake City.

Charles Savary, 54, head of the geodetic service of the provincial Ministry of Lands and Forests, was accidentally killed on July 29 at Quebec.

Edward M. Bassett, vice president of Wark & Co., Inc., building contractors of Philadelphia, died Aug. 16, at Swarthmore, Pa. Mr. Bassett, 58, joined Wark & Co. in 1918, following work for the Pennsylvania R. R. and the federal government.

Ceth D. Peacock, 56, civil engineer of Columbia, Mo., died recently at Fort Smith, Ark.

Wilson S. Kinnear, 77, civil engineer of Grosse Pointe, Mich., died Aug. 8, in that city. Mr. Kinnear was widely known for his engineering achievements and in 1912 received the Norman Medal from the American Society of Civil Engineers.

Warner King, 56, civil engineer with the board of estimates of New York City for 25 years and before that with other city departments for 10 years, died Aug. 12 at Bayshore, N. Y. He received his engineering education at Union College, Schenectady.

Francis J. Johnson for the past 16 years a construction engineer in the bridge section of the Rhode Island division of roads and bridges, died at Providence, Aug. 13. One time he was employed in the engineering department of the city of Providence and also worked with several private construction firms.

Charles B. Johnson, 70, treasurer and founder of the Charles B. Johnson Co., Inc., Chicago general contractors, died in this city Aug. 14. Mr. Johnson had been engaged in the construction business since 1893.

John Hunter, Sr., 71, organizer and former president of the Hunter Construction Co., Youngstown, Ohio, died Aug. 16, in Jacksonville, Fla. Early in life Mr. Hunter was in charge of the drafting room of the Youngstown Bridge Co., and when that firm was absorbed by the American Bridge Co., he moved to Ambridge, Pa. to be in charge of the latter firm's drafting room.

Walter T. Evans, deputy surveyor of Los Angeles County, Calif., died Aug. 9 at Glendale, Calif. at the age of 53. He had been with the county surveying department for the past 15 years.

Hugh Cook, 64, former vice president of the Cleveland Construction Co., and former president of the Cleveland Builders Exchange, died Aug. 12 in Cleveland.

Warren Dickinson, 73, civil engineer of Des Moines, Ia., died Aug. 11. Mr. Dickinson had been employed in the Des Moines city engineer's office and as surveyor for Polk County, Ia., before opening his own engineering office.

Howard Arthur Trevillyan, 38, civil engineer of Austin, Tex., employed by the federal government, was killed at Galveston, Tex., Aug. 6, in an auto accident. Mr. Trevillyan graduated in civil engineering from Iowa State College in 1927 and entered government service the next year.

CONTRACTS AND CAPITAL

Engineering Construction awards for the week, $80,161,000, are 12 percent below last week, and 38 percent under the volume for the corresponding 1940 week.

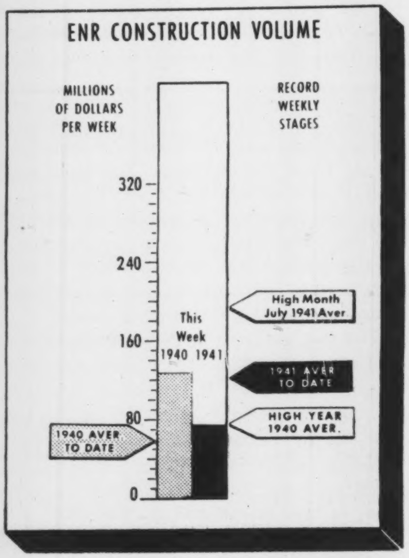
Private awards top last week by 9 percent, but are 5 percent under last year. Public construction is 17 and 43 percent lower, respectively, than a week ago and a year ago.

The current week's volume brings 1941 construction to $4,205,394,000, an increase of 102 percent over the 34-week period last year. Private awards for the period are up 42 percent compared with last year, and public construction is up 128 percent, due to the 350 percent gain in federal work.

In the classified construction groups, gains over last week are in waterworks, industrial buildings, commercial buildings, and streets and roads. Increases over last year are in waterworks, bridges, commercial buildings, earthwork and drainage, and streets and roads.

New capital for construction purposes for the week totals $4,179,000. This compares with $66,858,000 reported for the corresponding 1940 week. The current week's financing is made up entirely of state and municipal bond sales.

New construction financing for the year to date, $5,372,305,000, is 170 percent higher than the $1,989,925,000 total for the 34-week 1940 period.



CONTRACTS

(Thousands of dollars)

	Week Ending Aug. 22 1940	Week Ending Aug. 14 1941	Week Ending Aug. 21 1941
Federal	$83,899	$53,596	$45,599
State & Municipal	25,536	21,499	16,522
Total public...	$109,435	$75,095	$62,121
Total private..	19,014	16,491	18,040
TOTALS	$128,449	$91,586	$80,161
Cumulative			
1941 ......(34 weeks)			$4,205,394
1940 ......(34 weeks)			$2,077,277

Note: Minimum size projects included are: Waterworks and waterways projects, $15,000; other public works, $25,000; industrial buildings, $40,000; other buildings, $150,000.

NEW PRODUCTIVE CAPITAL

	Cumulative 1940 34 weeks	Cumulative 1941 34 weeks
NON-FEDERAL	$1,181,353	$974,716
Corp. Securities....	172,550	290,724
State & Mun......	590,143	320,722
U.S.H.A. loans.....	118,501	30,399
R.F.C. loans.......	116,159	69,371
R.E.A. loans.......	....	100,500
Federal Aid—Hwy..	184,000	163,000
FEDERAL	$808,572	$4,397,589
TOTAL CAPITAL....	$1,989,925	$5,372,305

FHA MORTGAGES

	Week Ending Aug. 17 1940	Week Ending Aug. 9 1941	Week Ending Aug. 16 1941
Selected for appraisal ..	$28,471	$33,026	$31,206*
Cumulative			
1941 ....(33 weeks).......			$962,044*
1940 ....(33 weeks).......			$820,322

* Subject to revision.

ENR INDEX NUMBERS

Index Base=100		1913	1926
Construction Cost..	Aug. '41	260.41	125.18
Building Cost.....	Aug. '41	212.45	114.84
Volume	July '41	635	278

CONTRACT UNIT PRICES

What contractors are bidding on different kinds of construction work

WOLF CREEK DAM KENTUCKY

OWNER: U.S. Engineer Office, Nashville, Tenn.; Major O. E. Walsh, district engineer.

PROJECT: Construction of Wolf Creek Dam, a combination concrete and earth structure on Cumberland River in Russell County, Ky., about 10 miles southwest of Jamestown, and 12 miles north of Albany, Ky. Major items include: cofferdam for earth embankment and masonry sections; foundation work, excavation, foundation drilling and grouting; earth embankment; concrete masonry for dam, pylon, spillway bridge, spray, training and retaining walls, piers, etc.; slide gates and operating equipment; tainter gate embedded metal; penstocks; temporary buildings; and other miscellaneous items. Constructed to provide flood control for Cumberland Valley, and to generate electric power.

CONDITIONS: Government to furnish cement; tainter gates and gate operating machinery to be furnished and erected by government. Contractor to furnish all other materials and complete work in 1,200 calendar days. There is no railway in immediate vicinity of work, but Southern Ry. passes through Burnside and Somerset, and Oneida & Western RR. terminates and has sidings at Jamestown, Ky. State Route 35 passes within four miles of dam site, and connecting gravel road passes near right abutment of dam. Government to recondition part of an existing road and construct new section to terminate near left dam abutment. Minimum wage rates are: skilled labor, $1.00 to $1.50 per hr.; semi-skilled, 45 to 90c.; and common, 40 to 50c.

BIDS: Two bids were received July 8, 1941, the contract low of $15,803,690, and $16,535,774. Engineer's estimate, $14,868,791.

LIST OF BIDDERS:

1. S. A. Healy Co., White Plains, N. Y. (contract)	$15,803,690
2. United Constr. Co., and Porter-DeWitt Constr. Co., Winona, Minn.	16,535,774

Item	Quan.	Unit Prices (1)	(2)	(3)*
1. Cofferdams	L.S.	$300,000.00	$138,004.00	$246,646.71
2. Excavation, stripping	250,000 c.y.	.20	.20	.27
3. Excavation, common	1,700,000 c.y.	.26	2.31	.33
4. Excavation, rock	70,000 c.y.	.90	6.42	.97
5. Line drilling	28,000 s.f.	.60	.96	.74
6. Excav., borrow area "A"	4,900,000 c.y.	.26	.23	.28
7. Excav., borrow area "B"	3,500,000 c.y.	.26	.23	.28
8. Excav., borrow area "C"	1,150,000 c.y.	.30	.24	.32
9. Overburden relief holes	1,600 l.f.	2.00	2.89	1.92
10. Drill 2-in. grout holes, under embk	22,000 l.f.	2.50	2.00	1.78
11. Drill 2-in. grout holes under masry	30,000 l.f.	2.75	2.00	2.08
12. Drill 4-in. drain holes	7,440 l.f.	5.00	3.10	3.58
13. Drill 3-in. drain holes	2,300 l.f.	2.00	.54	.63
14. Drill 3-in. anchor holes	7,300 l.f.	2.00	.86	.84
15. Drill 6-in. core holes	200 l.f.	10.00	9.63	6.81
16. Press. grouting under embank	22,000 sack	1.50	1.00	1.00
17. Pressure grouting under masonry	45,000 sack	1.50	1.00	1.00
18. Impervious rolled fill	8,600,000 c.y.	.05	.07	.09
19. Random fill	570,000 c.y.	.22	.01	.09
20. Backfill	20,000 c.y.	.25	.66	.54
21. Roll, each add'l. two trips	2,000,000 sq.	.01	.007	.02
22. Gravel drains	500 c.y.	2.00	6.21	1.14
23. Sand and gravel	160,000 c.y.	.70	1.50	.93
24. Dumped riprap	150,000 c.y.	.80	2.25	1.91
25. Rock paving	13,000 c.y.	15.00	10.50	3.68
26. Rock fill	22,000 c.y.	3.00	2.00	1.91
27. Stone masonry	800 c.y.	25.00	10.50	7.07
28. Slush mortar	200 c.y.	6.50	15.00	8.00
29. 12-in. vit. tile, half round	3,100 l.f.	1.50	1.50	.51
30. Seeding	46 ac.	150.00	150.00	345.24
31. Roadway base	10,300 s.y.	3.00	.75	.61
32. Roadway guard rail	7,740 l.f.	2.50	1.50	1.40
33. 15-in. corr. met. pipe, fndn. drain.	2,800 l.f.	3.00	1.70	2.01
34. 15-in. corr. metal pipe	1,330 l.f.	3.00	2.75	1.92
35. 18-in. corr. metal pipe	1,020 l.f.	4.00	3.00	2.17
36. 21-in. corr. metal pipe	2,120 l.f.	4.50	3.75	2.49
37. Catch basins, complete	34 ea.	150.00	115.00	96.47
38. Haul and store cement	1,400,000 bbl.	.65	.45	.96
39. Concrete for dam	1,200,000 c.y.	6.72	5.00	5.66
40. Conc.; piers and spray wall	15,300 c.y.	25.00	12.00	12.44
41. Conc.; training and ret. walls	24,000 c.y.	12.50	12.00	9.31
42. Concrete for bridge	700 c.y.	30.00	25.00	28.01
43. Miscellaneous concrete	3,300 c.y.	35.00	15.00	27.13
44. Control house	L.S.	30,000.00	12,000.00	11,346.82
45. Reinforcing steel	2,800,000 lb.	.05	.02	.02
46. Porous concrete pipe	41,000 l.f.	.60	.75	.40
47. Copper stops	30,000 lb.	.60	.30	.13
48. Slide gates complete	L.S.	125,000.00	30,000.00	47,080.87
49. Oil pumps and piping system	L.S.	5,000.00	4,000.00	3,554.91
50. Sluice blkhd. and pickup beam	L.S.	2,500.00	2,900.00	2,232.51
51. Tainter gate embedded metal	L.S.	50,000.00	52,000.00	169,248.36
52. Penstocks	2,500,000 lb.	.14	.17	.10
53. Structural steel	670,000 lb.	.085	.07	.06
54. Misc. metal work	330,000 lb.	.16	.20	.20
55. Misc. cast iron	73,000 lb.	.07	.05	.04
56. Misc. wrought iron	136,000 lb.	.20	.12	.17
57. Misc. brass and bronze	4,600 lb.	1.00	.20	.25
58. Handrailing	24,000 lb.	.30	.09	.06
59. Black steel pipe	200,000 lb.	.20	.10	.06
60. Misc. corr. metal pipe	19,600 lb.	.20	.12	.14
61. Sump pumping system	L.S.	4,500.00	2,100.00	1,724.69
62. Water supply system	L.S.	5,000.00	3,000.00	2,704.93
63. Grouting gallery water system	L.S.	2,000.00	2,957.00	1,055.55
64. Bypass system	L.S.	4,000.00	3,700.00	3,145.74
65. Floatwell piping	L.S.	2,000.00	266.00	136.63
66. Pylon plumbing and drain. sys	L.S.	6,000.00	7,000.00	1,932.13
67. Piezometer system	L.S.	3,000.00	3,277.00	982.58
68. Elevator	L.S.	17,500.00	15,000.00	15,470.01
69. Gasoline-electric stand-by unit	L.S.	5,000.00	4,000.00	4,588.13
70. Power and lighting system	L.S.	60,000.00	30,000.00	45,459.57
71. Conduits for electric wiring	L.S.	40,000.00	25,000.00	39,454.98
72. Tile gages	L.S.	1,500.00	2,000.00	1,463.53
73. Temporary buildings	L.S.	28,500.00	20,000.00	29,000.00

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* *Engineer's estimate.*

HIGHWAY SURFACING MONTANA

OWNER: State Highway Commission of Montana, Helena; Ray Kuhns, division engineer, Great Falls, Mont.

PROJECT: Grading and surfacing 7.718 miles of Rogers Pass-Simms Road, Section C, in Lewis and Clark County, Mont. Includes all excavation, culverts and pipe required.

CONDITIONS: Contractor to furnish all materials and complete work by July 31, 1942. Rail and highway transportation facilities available. Minimum wage rates specified are: skilled labor, $1.20 per hr.; semi-skilled, 82½c.; and common, 65c. There is a possibility of shortage of skilled workmen on project.

BIDS: Nine bids were received July 22, 1941 ranging from the contract low of $76,161 to $109,672.

LIST OF BIDDERS:

1. Thomas Staunton, Great Falls, Mont. (contract)	$76,161
2. Stanley H. Arkwright, Great Falls, Mont.	80,622
3. Union Constr. Co., Great Falls, Mont.	81,875
4. J. L. McLaughlin, Great Falls, Mont.	88,154
5. Peter Kiewit Sons' Co., Omaha, Nebr.	88,385
6. Nilson-Smith Constr. Co., Great Falls, Mont.	89,124
7. S. Birch & Sons Constr. Co., Great Falls, Mont	91,874
8. S. J. Groves & Sons Co., Billings, Mont.	104,240
9. E. O. Howe, Great Falls, Mont.	109,672

Item	Quan.	Unit Prices (1)	(2)	(3)
1. Unclassified excavation	263,735 c.y.	$0.13	$0.154	$0.155
2. Culvert excavation	891 c.y.	1.00	.80	1.00
3. Overhaul	608,000 st.y.	.01	.008	.01
4. Base crse. on gravel surf	40,786 ton	.45	.48	.45
5. Binder	2,000 c.y.	.01	.01	.01
6. Overhaul on binder	4,000 y. mi.	.01	.01	.01
7. Watering	2,000 M gal.	2.00	1.00	1.20
8. Rolling	350 hr.	3.50	4.00	4.00
9. 15-in. rein. conc. pipe culv	192 l.f.	1.70	1.65	1.80
10. 24-in. rein. conc. pipe culv	1,168 l.f.	3.20	3.00	3.00
11. 30-in. rein. conc. pipe culv	304 l.f.	4.70	5.00	5.00
12. 36-in. rein. conc. pipe culv	216 l.f.	6.25	6.00	6.00
13. 48-in. rein. conc. pipe culv	220 l.f.	10.00	11.00	11.00
14. 24-in. corr. met. syphon pipe	276 l.f.	3.10	3.25	4.00
15. 36-in. corr. met. syphon pipe	76 l.f.	6.00	6.00	7.00
16. Class B concrete	1.53 c.y.	30.00	50.00	50.00
17. Class A concrete	2.63 c.y.	40.00	50.00	40.00
18. Reinforcing steel	211 lb.	.10	.10	.15
19. Grouted riprap	150 s.y.	3.50	3.00	4.00
20. Conc. project markers	2 ea.	10.00	25.00	10.00
21. Wood station markers	41 ea.	2.00	3.00	3.00
22. Conc. rt.-of-way monuments	41 ea.	2.50	3.00	3.00

CONSTRUCTION REPORTS

Compiled by Business News Department—Engineering News-Record, 330 W. 42nd St., New York
ELSIE EAVES, Manager *SCOTT McLEOD, Statistician*
(Daily service also available—Write for details)

Location of ENR Correspondents

Symbols and Abbreviations Include:

† Federal Government
★ Project of $500,000 or over
ENR Engineering News-Record
CD Engineering News-Record Construction Daily

Projects—By Size

Construction projects here reported cover the United States and Canada, are of these minimum sizes or larger; water supply, earthwork, waterworks, $15,000; other public works, $25,000; industrial buildings, $40,000; other buildings, $150,000.

Classes of Construction

(Named in order of Listing)

Water Supply
Sewers, Waste Disposal
Bridges, Grade Cross'gs
Streets & Roads
Earthwork, Waterways
Unclassified
Latin America
Public Buildings
Commercial Buildings
Industrial Buildings

Stages Reported

PROPOSED: (except Streets & Roads):

BIDS ASKED (new announcements only. For full calendar, see also preceding issues of ENR);

LOW BIDDERS: All low bidder news will be the final reports published on the projects involved except where award is not made to the low bidder. In this case, a supplementary contract award report will be published.

CONTRACTS AWARDED: Except awards to low bidders previously reported in low bidder stage.

Dates shown are of issue in which last previous report was published.

WATER SUPPLY

PROPOSED WORK

Calif., Santa Cruz—Completing surveys rerouting watermains in connection with realignment Coast Rd., approx. 12 mi. steel pipe replaced. R. S. Tait, city water supt.

★**Md., Sparrows Point**—Bethlehem Steel Co., Bethlehem, Pa., and Sparrows Point, bids in fall (1st unit) watermains, pump. station, processing equip. regulatore, classifiers, settling basins, etc. $2,000,000. Whitman, Reqnardt & Smith, 1034 St. Paul St., Baltimore, engrs.

Pa., Polk—General State Auth., 2 and Locust Sts., Harrisburg, imprv., exten. water supply sys., Polk State School, $50,000.

Tex., Arlington—W. F. Altman, mayor, water and sewer exten. imprv. sewage disposal plant, etc. $125,000. Applied for PWA funds. Meyers & Noyes Tower Petroleum Bldg., Dallas, engrs.

★**Tex., Corpus Christi** — A. C. McCaughan, mayor, addnl. mains, imprv., enlarging water plant, distr. sys., 1 m.g. storage tank, 24 m.g. settling basin. $2,294,239. Applied for PWA funds. G. R. Blackburn, Corpus Christi, engr.

Tex., Palacios—B. F. Belknap, city secy., WW sys. exten. imprvs. $120,000. J. Montgomery, c/o Littlefield Bldg., Austin, engr. CD 7/23—ENR 7/31.

★**Tex., Pasadena**—D. L. Atkinson, mayor, water and sanitary sewerage sys. imprvs. addns. and extens. water supply and distr. sys., and sewage collection. $532,700. Applied for PWA funds. Garrett Eng. Co., 3504 Audubon St., Houston, engr.

Tex., Port Lavaca—F. M. Dudgeon, mayor, WW imprvs. (Tex. 41-217). $70,000. Applied for PWA funds. F. G. Huffman, Port Lavaca, engr. CD 7/30—ENR 8/7.

Wash., Seattle—Bond election Sept. 8, water supply sys., Mount View Dist., for Water Dist. 61. $70,000.

Wash., Seattle—Watermains in E. Marginal Way. $40,000. C. L. Wartelle, County-City Bldg., engr.

B. C., Haney—Bids soon water sys. $25,000. W. T. McIntosh, Hamey, councillor.

B. C., Saanich—Election Sept. 20, to vote on money by-law, waterworks exten. $350,000. CD 4/23—ENR 5/8.

Que., Asbestos—Municipality, enlarging dam or constructing new dam, installing 10 in. c.i. pipe lines, reconstructing pump. station, new discharge installation. $40,000.

Que., Contrecoeur—Filtration plant. $25,000. Dpt. Health, Quebec City, engr.

Que., Drummondville—4,700 ft. 6 and 8 in. c.i. mains. $30,000.

Que., Granby—WW exten. $17,000.

Que., Thetford Mines—WW imprvs., auxiliary intake in river, concrete suction well, pump. station, etc. $30,000.

BIDS ASKED

Bids Asked about September 1

†**Calif., Camp Haan**—Con. Q.M., water softening and treatment plant. Over $15,000. Lippincott, Bowen & Rowe, 714 W. Olympic Blvd., Los Angeles, engrs.

LOW BIDDERS

†**Miss., Columbus**—U. S. Eng., Mobile, Ala., 2 or more water wells, Advanced Twin Engine Flying School to Layne Central Co., 1993 Chelsea Ave., Memphis, Tenn., **$18,250,** est. $15,000. Bids 7/26, awarded 8/7; elevated water tank, to Chicago Bridge & Iron Co., 1500 N. 50 St., Birmingham, Ala., **$48,500,** est. $20,000. Bids 7/28, awarded 8/7.

★**Okla., Oklahoma City—City, Aug. 12, diversion works, canal, siphon and earthen dam for Bluff Creek Reservoir, from S. J. Groves Co., James Bass & Co. and Ottinger Bros. Co., Petroleum Bldg., $3,787,443. Est. $2,946,000.** CD 8/5—ENR 8/7.

Pa., Mont Alto—General State Auth., 112 N. 2 St., Harrisburg, water supply sys., impounding dam, pipe lines, pump. machinery, mechanical work, Pennsylvania State Sanatorium for Tuberculosis, from Pitt Constr. Co., 1235 Washington Blvd., Pittsburgh. **$269,349.** Bids 8/12.

Vt., Brattleboro—Bd. Selectmen, Town Hall, Aug. 11, 2.7 mi. 10 in. c.i. water pipe line, from R. J. Pierce, Brattleboro, $45,175. Est. $52,000. CD 7/29—ENR 7/21.

Wash., Seattle—City, Aug. 7, furnishing 2,180 ft., 51¼ in. steel pipe to replace part existing Cedar River pipeline, from Hydraulic Supply Mfg. Co., 2500 Eighth Ave. S. $28,666.

CONTRACTS AWARDED

Calif., San Francisco—Pub. Utilities Comn., City Hall, 8 in. c.i. watermains in Lombard St., to San Francisco Water Dpt., 425 Mason St., San Francisco. **$15,598.** City furnishes pipe and fittings. **$9,715.** Bids 8/12. CD 8/4.

†**Calif., Victorville**—U. S. Eng., 1 and Douglas Sts., Wash., D. C., elevated water tank, Victorville Military Airport, to Chicago Bridge & Iron Co., 608 S. Hill St., Los Angeles, **$68,890.**

Mass., South Hadley—Fire Dist. 2, earth and concrete water supply dam, to Dingley Bros., Inc., 22 Everett St., Natick. Est. **$18,000.** Bids 7/30. CD 7/24.

N. J., Newark—Water Dpt., City Hall Annex, sheeting, watermains, **WPA. $30,900.** W. Banks, City Hall Annex, city and WPA engr.

Okla., Alva—22 mi. of 12 in. c.i. water conduit, from point near Waynoka to Alva water sys., **WPA. $343,338.** H. W. Nighswonger, Alva, engr.

Pa., Danville—Boro Council, filtration plant waterworks, to Boyd H. Kline, Bloomsburg. **$15,470.** Awarded 8/8.

Pa., Ligonier—Ligonier Water Co., Ligonier, reservoir to enlarge present capacity water supply, own forces. Over **$15,000.** CD 8/1—ENR 8/7.

†**Tex., Midland**—U. S. Eng., Santa Fe Bldg., Galveston, elevated steel water tank, Midland Field, to Pittsburgh-Des Moines Steel Co., Praetorian Bldg., Dallas, **$52,520.** CD 7/3—ENR 7/10.

Tex., Velasco—E. F. Roeller, mayor, WW expansion and imprvs., day labor. **$45,000.** Garrett Eng. Co., 3504 Audubon St., **Houston,** engrs. CD 8/6—ENR 8/14.

†**Wash., Fort Lewis**—War Dpt., 20 St. and Constitution Ave. N.W., Wash., D. C., water supply lines, distr. sys. to T. L. G. Constr. Co., 1515 E. Thomas St., Seattle, **$40,700.**

B. C., Patricia Bay—Dpt. National Defense for Air, Ottawa, Ont., water supply sys., R.C.A.F. Station, to General Constr. Co., Ltd., Graville Island, Vancouver. **$83,000.**

N. S., Springhill—Dominion Coal Co., Ltd., Springhill, 2 mi. 8 in. watermains, dam, reservoir, to M. H. McManus Ltd., 76 Harvard St., Halifax. Est. **$50,000.**

Ont., Clinton—Municipality, WW imprvs., to Roberts & Co. Ltd., 7 Holme St., Brantford. Est. **$20,000.** A. E. Rumball, P. Utilities Comn., engr.

Minn., Wheaton—M. J. Fridgen, village clk., sewage disposal plant. $100,000 or more. WPA.

Ont., Jordan—Jordan Wine Co., Jordan, 7 mi. 6 in. c.i. watermains, to John Taylor & Co., 21 Mount Royal Ave., Hamilton. Est. **$50,000.** E. H. Darling, 36 James St. S., Hamilton, engr. Awarded 8/8. CD 4/10—ENR 4/17.

Sask., Mossbank—Dpt. Transport, Ottawa, Ont. supply, install wood stave pipeline for water supply, aerodrome, to Northern Wood Preservers, Ltd., 21 King St. E., Toronto, Ont., about **$22,000.**

SEWERS, WASTE DISPOSAL

PROPOSED WORK

Ark., Mountain Howe—H. Hackler, mayor, sewerage sys., disposal plant. R. E. Williams, Pyramid Bldg., Little Rock, engr.

Ark., Norfork—R. Rouse, mayor, sewerage sys., disposal plant.

Calif., Berkeley—McKeon Happy Homes Bldg. Co., 1500 Sacramento St., completed plans 5,000 lin. ft., 4 and 6 in. vitr. sewers, manholes, lampholes, etc., University Gardens Development, T. V. Tronoff, 1500 Sacramento St., engr.

★**Calif., Long Beach**—Storm drain, sewer project. G. E. Baker, City Hall, engr. Over $2,000,000.

Calif., Paso Robles—Surveys sewage disposal plant, exten. sewer lines.

Calif., San Bernardino—Big Baer Co. Sanitation Dist., Courthouse, rejected bids June 30, sewage treatment plant. CD 7/8—ENR 7/10 under LB.

Calif., Whittier—Rejected bids, 2,660 lin. ft. 4 ft. 6 in. arch top rein. con. storm drain. CD 8/4—ENR 8/7.

Conn., Hartford—Bureau Pub. Wks., Metropolitan Dist., 550 Main St., trunk sewer from New Britain Ave., West Hartford, to Willard and Robbins Ave., Newington, $265,000. R. J. Ross, Municipal Bldg., 550 Main St., engr.

Conn., New Haven—Engineering Dpt., Hall Records, 1½ to 2 mi. sanitary sewers, pumping station, James St; Sewage Disposal Plant, Fort Hill Park, East Shore Sect. Over $25,000.

Mo., Houston—Sewerage sys. $175,000. Voted $22,000 bonds. Applied for PWA gr.

N. J., Newark—Sheeting, sewers. $50,500. WPA. J. Costello, City Hall, WPA and city engr.

N. J., Paterson—City Hall, repairing storm and sanitary sewers, Belmont Ave. and W. Broadway. $100,000. V. J. Scanlon, City Hall, engr.

N. Y., Chautauqua — Chautauqua Utilities Dist., W. H. Wheeler, chn., modernization existing sewage disposal plant. $25,000.

★**O., Cleveland—Frank Foy, acting** city pur. agt., sewerage work, West Park Dist., north of airport, low level sect. Cayahoga River. $1,300,000. J. W. Wenrick, city engr.

Tex., Bellaire—A. B. Zindler, mayor, sanitary sewer addn., sewage collecting sys. addn., sewer lines, manholes, disposal plant addn., sludge pump, valves, etc. $55,000. Applied for PWA funds. Garrett Eng. Co., 3504 Audubon St., Houston, engrs.

★**Tex., Corpus Christi** — A. C. McCaughan, mayor, precast con. 15- to 138-in. storm sewers, interceptor ditches, etc. $4,137,463. Applied for PWA funds. G. R. Blackburn, Corpus Christi, engr. Meyers & Noyes, Corpus Christi and Tower Petroleum Bldg., Dallas, consult. engrs.

Tex., El Paso—J. S. Carroll, mayor, sewerage sys. imprvs., sewage treatment plant, etc. $89,195. Applied for PWA funds. S. A. Russell, city engr., J. H. Wilkins, Bay City, consult. engr.

Tex., Fort Worth—S. H. Bothwell, city mgr., 24 in. sewer to serve bomber plant, sewage treatment plant, enlarging, imprv. present plant, solid brick pump. station, etc. $460,000. Applied for PWA funds. Freese & Nichols, Capps Bldg., Fort Worth, Texas, consult. engrs.

SEWERS, etc., (Proposed Work, Cont'd.)

Tex., Galveston—Incinerator **$150,000**, sanitary sewerage sys. exten. **$215,000**. PWA. Ford, Bacon & Davis, Inc., 39 Bway., New York, N. Y., consult. engrs.

Tex., Harlingen—H. Ramsey, mayor, storm sewer project. **$100,000**. Will apply for WPA funds. A. E. Tamm, 107 S. 1 St., engr.

★**Tex., Houston**—C. A. Pickett, mayor, sewerage sys. exten., sewage treatment plant, sanitary sewage lift sta., sewer lines, appurtenances. **$4,100,000**. Applied for PWA funds. J. C. Turney, city engr. CD 7/25—ENR 7/31.

Tex., Orange—A. Sokolosky, mayor, sewage disposal plant and sewerage sys. imprvs. $137,046. Applied for PWA funds. C. P. Smith, Orange, engr. CD 7/28—ENR 7/31.

Tex., Palacios—B. F. Belknap, city secy., Palacios, sanitary sewer lines disposal plant, $64,000. J. Montgomery, c/o Littlefield Bldg., Austin, engr. CD 7/23—ENR 7/41.

Tex., Rockport—J. E. Moore, mayor, sewerage sys., disposal plant and WW imprvs. $75,000. Applied for PWA funds. M. C. St. John, 4101 Polk Ave., Houston, engr.

Tex., Rosenberg—Voted $50,000 bonds, storm sewer lines, drainage work. Garrett Eng. Co., 918 Richmond St., engr.

Tex., San Antonio—C. K. Quinn, mayor, stand-by water pump. station, at power station. $75,000. T. Coghill, city engr. J. D. Masterson, City Water Bd. Mgr.

Tex., West University Place—A. L. Kerbow, mayor, collecting sys. and disposal plant, new sewer lines, enlarge existing lines, central pump. sta., outfall lines, addns. existing disposal plant. $498,000. Applied for PWA funds. Garrett Eng. Co., 918 Richmond St., Houston, engr. CD 7/22—ENR 7/24.

Tex., Wharton—J. E. Moore, mayor, sewage disposal plant, sewerage sys. addns., imprvs. $159,000. Applied for PWA funds. H. J. Wilkins, Bay City, engr.

Wash., Navy Yard City—Sewerage sys. exten. $225,000.

BIDS ASKED

Tex., Corpus Christi—Defense Homes Corp., c/o O. F. Holcombe, Box 2366, 26,000 lin. ft. sanitary sewer lines, $110,000; sidewalks, etc.

LOW BIDDERS

Calif., Los Angeles—City, August 13, sanitary sewers, Colby Ave. and Gateway Blvd., sewer dist., from B. D. Zaich & Son, 1416 Ethel St., Glendale. **$51,711**. Est. $45,269. CD 7/29—ENR 7/31.

Idaho, Pocatello—Sewage treatment plant, from J. W. Brennan, Pocatello. **$123,888**. Bids 8/12. CD 7/8—ENR 7/10.

N. J., Bergenfield and **Dumont**—Twin Boro Sewerage Comn., 276 Hickory Ave., Bergenfield, July 31, sewage disposal plant alterations, addns., 2 primary settling tanks, venturi flume, outfall, 2 digestion tanks, distr. sys., equip., etc., from Sutter Constr. Co., Inc., 285 Madison Ave., New York. **$70,050**. CD 7/23.

CONTRACTS AWARDED

Calif., Los Angeles—Lakewood Village Public Utility Dist., Lakewood Village (Los Angeles Co.) 15,000 lin. ft. 24 in. sanitary sewers, to J. J. Barrett, P. O. Box 924, Balboa. **$99,387**. Bids 8/11, awarded 8/11. CD 7/29—ENR 7/31.

†**N. J., Clark**—Federal Works Agency, 7 and D Sts. S.W., Wash., D. C., vitr. tile sanitary sewers in various streets in defense housing project. **WPA. $66,600.**

N. J., Newark—Sheeting, sanitary sewers. WPA. **$65,500**. J. Costello, City Hall, city and WPA engr.

N. J., Wood Ridge—Boro, 8 in. sanitary sewers, North Ave., to Guy Villa & Son, 995 Central Ave., Westfield. **$35,000.**

Pa., Montrose—Boro Council, K. Corwin, pres., imprv., exten. municipal sewerage sys., **WPA. $50,000-$60,000.** CD 7/24—ENR 7/31.

S. D., Sioux Falls—Sewage plant imprvs., to Sioux Falls Constr. Co. **$29,397**. Bids 8/7. CD 7/15—ENR 7/17.

Tex., Velasco—E. F. Roeller, mayor, imprv., expanding sanitary sewerage sys., day labor. **$60,000.** Garrett Eng. Co., 3504 Audubon St., Houston, engrs. CD 8/6—ENR 8/14, under WW.

Wis., Hales Corner—Hales Corners Sanitary Dist. 1, R. 4, Box 1, West Allis, sanitary sewer sys., to W. J. Lazynski Inc., 802 E. Center St., Milwaukee. **$112,149**. CD 7/29—ENR 7/31.

BRIDGES, GRADE CROSSINGS

PROPOSED WORK

†**Calif., Yreka**—Forest Service, Government Island, Alameda, completed plans 111 ft. truss span and approach spans, near here.

Illinois—State Dpt. P. Wks. & Buildings, Div. Hys., Springfield, preparing plans 5 bridges, FA Rt. 1A, Sect. 3B, incl. one 26 ft. span, two 34 ft. concrete deck girder, one 24 in. concrete slab, one 30 in. deck girder and one 35 in. concrete deck girder span bridges, Will Co.; 1,000 ft. rein.-con. deck girder bridge, FA Rt, 26, Sect. 140B, Kankakee Co.; two 70 ft. and one 150 ft. span steel truss bridge, FA Rt. 4, Sect. 202B, Madison Co.; 4 bridges, SB1 Rt. 3, Sect. 17B, Rock Island Co.; concrete bridge over Jackson Creek, B1 Rt. 4, Sect. 3XB, Will Co.; Sect. 1B, widening roadway on concrete bridge over Rock River, Camp Grant; Sect. 1HB, grade separation FART 179, over Kishwaukee St., Camp Grant; two 78 ft., two 97 ft., steel I-beam span bridge over Kishwaukee River, Sect. 1 B1, all Winnebago Co.; bridge over Kaskaskia River and overflow, Vandalia, Sect. U-4B, SB 1 Rt. 11 (U.S. 40), 4 bridges between Mulberry Grove and Vandalia, P-1-B, Fayette Co.; two 84 ft. and one 108 ft. I-beam span bridge over Cache River, diversion SB I Rt. 150, Sect. 136 B-2, Alexander Co.; 44 ft. span, rein.-con. deck girder bridge over Lick Creek, 30 ft. rein.-con. deck girder over Coal Creek, 1 concrete box culvert, FA Rt. 164, Sect. 5B, Green Co.; two 80 ft. steel plate girder span bridge, two 250 ft. and one 325 ft. steel ties arch span bridges, S.I.B. 2, Sect. 39 RB, Lee and Ogle Counties; overhead bridge to carry FA Route 26 over tracks of Kankakee branch of N. Y. C. R.R., Kankakee Co.; viaduct over Chicago & North Western R.R., and Chicago, North Shore & Milwaukee R.R., subway at tracks of Elgin, Joliet & Eastern R.R., both on reloca. of St. Rt. 42, Lake Co.; overcrossing for relocation of Rt. 40 over Penna. R.R. tracks 1,200 ft. east of Mulberry Grove, Bond Co. E. Lieberman, Centennial Bldg., Springfield, engr.

Oklahoma—State Hy. Dpt., Oklahoma City, bridge, State Hy. 10, near Whitefield, Haskell Co. $28,000. V. T. Moon, hy. engr.

Pa., Wilkes-Barre—L. K. Eldridge, city clk., rehabilitating South St. bridge. G. B. Walker, city engr.

Texas—State Hy. Comn., B. P. Gentry, chn., Austin, 0.741 mi. Pecos River bridge, stabilized base and asphaltic surface U.S. Hy. 80, FAP 390-A and BS296, Reeves Co. $46,000; 1.41 m. Dry Creek Bridge and relief bridge, U.S. Hy. 277, FAP 392-E. $40,000. Edwards Co.

BIDS ASKED

Bids Asked August 26

Indiana—State Hy. Comn., Indianapolis, 3 span, 196 ft. continuous steel beam bridge over Racoon Creek, and 0.25 mi. approach, grading, paving, Montgomery Co.; 1 span, 30 ft. rein.-con. arch bridge over Kingsbury Creek, State Rd. 6, and rein.-con. arch exten. over Kingsbury Creek, State Rd. 6, Laporte Co.; 5 span, 206 ft. rein.-con. girder bridge, Grand Trunk Ry., State Rd. 35, and 0.34 mi. approach grading, paving, Laporte Co. M. R. Keefe, c/o owner, ch. engr.

Iowa—State Hy. Comn., 50x30 ft., concrete rigid frame bridge and 0.165 mi. grading, paving, FA-262-BCD (2), Buchanan Co.; 7 rein.-con. box culverts and exten., raising, widening 16x32 ft. I-beam bridge to 22x32 ft., and 20x125 ft. multiple span timber bridge, Teeds Grove to Hauntown, FM-20, Clinton Co.; 5 rein.-con. box culverts and exten., FAS-575-A(1), County Trunk Rd. E out of Webster City south, Hamilton Co.; rein.-con. box culvert exten., FSN-366-B, County Trunk Rd. B, Buckeye south, Hardin Co.; 3 rein.-con. box culvert extens., County Trunk Rd. E, U.S. 65, east FSN-475, Hardin Co.; 24x140 ft., overhead structure, 1 rein.-con. box culvert, 1 concrete flume exten., County Trunk Rd. H, FAGS-565-A(1), Montgomery Co.; 22x150 ft. continuous I-beam bridge, FAS-729-A(1), County Trunk Rd. F, Taylor Co.; 3 rein.-con. box culverts and extens., County Trunk Rd. T, east from point near S. ¼ Cor. Sect. 6-89-44, FM-13; 5 rein.-con. box culverts and extens., Sect. 2-86-45 north to County Trunk Rd B, both Woodbury Co.

Bids Asked about August 29

Tex., Houston—Harris Co., rein.-con. bridge, Steubner Airline Rd. $38,000.

Bids Asked September 4

Calif., Los Angeles—State Hy. Dpt., 1808 State Bldg., bids rejected July 24, steel, rein. con. superstructure, bridge over Los Angeles River, Figueroa St., $300,000. C. H. Purcell, 808 State Bldg., engr. CD 7/29—ENR 7/31.

★**New York**—A. W. Brandt, supt. P. Wks., Albany, moving bridge to new abutments, 0.18 mi. hy., Genesee Co.; concrete work 5.58 mi. Washington Co.; railroad grade crossing elimination, 0.28 mi. Rockland Co.; est. $943.79; adv. ENR 8/21.

Bids Asked September 8

Kentucky—Dpt. Hy., Frankfort, concrete overhead, Illinois Central and Louisville & Nashville Railroads, near West Point, Louisville-Elizabethtown Rd., Hardin Co.; dismantling 2 steel spans over Rolling Fork of Salt River, Bardstown-Elizabethtown Rd., Nelson and Hardin Counties, and painting, re-erection at site on Green River, Columbia-Knifley Rd., Adair Co.

New Jersey—State Hy. Dpt., Trenton, steel, concrete bridge, Grassy Sound, State Hy. Route S-49, Sect. 5, Wildwood, in Lower Township, Cape May Co.; adv. 8/21.

Bids Asked September 15

Oregon—Bureau Reclamation, Bend, Ore., constructing Crooked River Crossing, North Unit Main Canal, near Terrebonne, Deschutes Project.

LOW BIDDERS

Colorado—State Hy. Dpt., Denver, July 29, bridge, gravel surfacing 0.46 mi. Gunnison Co., from A. S. Horner, 575 S. Downing St., Denver. **$52,259**. CD 7/21.

Colorado—State Hy. Dpt., Denver, Aug. 5, 8 bridges, Mesa Co., from G. Knutsen, 3727 Bway., Kansas City, Mo. **$118,852**. CD 7/29, under Roads.

Connecticut—State Hy. Comn., W. J. Cox, comr., Hartford, Aug. 11, bridge over Mill River, 675 ft. drainage, Hamden-North Haven, from Mariani Constr. Co., 222 Forbes Ave., New Haven, **$92,959**; 3,512 ft. bridge, etc., McMullen Ave., Wethersfield, from D. Arrigoni, 605 Main St., Middletown, **$186,272**. Withdrew bids to have been opened Aug. 11, two span stone faced bridge, Ridge Rd., Wethersfield, will readvertise. CD 7/31—ENR 8/7.

Connecticut—State Hy. Comn., Hartford, July 28, bridge and grading approaches, Folly Brook Blvd. Bridge, Wethersfield, from L. G. Defilce & Son, 1817 Dixwell Ave., New Haven, **$113,613**; concrete roadway slab, Conn. River Bridge, Windsor Locks and East Windsor, from General Eng. & Constr. Co., 32 Broadway, Providence, R. I., **$39,376**. CD 7/21—ENR 7/24.

Delaware—State Hy. Dpt., Dover, Aug. 13, overhead crossing, High St., Seaford, Sussex Co., Contr. 699, from J. A. Bader & Co., Lackey Bldg., Wilmington. **$79,719**. CD 7/29—ENR 7/31.

Iowa—State Hy. Comn., Ames, I-beam bridge and grading, Chickasaw Co., from Amos Melburg, 316 19 St. S.E., Cedar Rapids. **$40,666**. Bids 8/12. CD 7/31.

N. Y., Brooklyn—Dpt. P. Wks., Municipal Bldg., New York, Aug. 12, Contr. 2, reconstructing track stringers, westerly lower deck main span and Brooklyn side span, Manhattan Bridge, from John Roman, Inc., 189 Montague St. **$131,344**. CD 8/5—ENR 8/7.

N. Y., Mount Vernon and **Yonkers**—Westchester Co., C. A. Garfield, engr. in charge of constr., County Office Bldg., White Plains, Aug. 11, Contr. 435A, Fleetwood viaduct, access intersection Bronx River Parkway, Mount Vernon and Yonkers, from Mill Basin Asphalt Co., E. 54 St. and Avenue U, Brooklyn. **$155,327**. CD 7/24—ENR 7/31.

Wash., Seattle—City Light Dpt., City Light Bldg., August 14, 3 bridges on Skagit project, from N. W. White, Canadian National Dock, $93,575. E. R. Hoffman, City Light Supt. CD 8/5—ENR 8/7.

CONTRACTS AWARDED

Georgia—State Hy. Dpt., Atlanta, overhead bridge, Gwinnett Co. and bridge Dade Co., to W. B. Brantley Constr. Co., 645 N. Highland Ave., Atlanta. **$45,031** and **$44,733** respectively. Bids 8/1. CD 7/22—ENR 7/24.

Maine—State Hy. Comn., L. D. Barrows, ch. engr., Augusta, Knightly Bridge, Waterford, to Hector J. Cyr, 65 Temple St. Waterville. **$32,375**. Bids 8/6, awarded 8/13. CD 7/31.

Massachusetts—Commonwealth of Massachusetts, Dpt. P. Wks., Boston, Bird St. grade crossing elimination, steel bridge over New York, New Haven & Hartford R.R., FAGM 18 A(1), Dorchester (Boston), to Coleman Bros. Corp., 245 State St., Boston. **$98,263**. Bids 6/24. CD 6/9.

Massachusetts—Dpt. P. Wks., Boston, reconstructing concrete, steel bridge over Boston & Albany R.R., FAGM 25 A, Pittsfield, to J. DiGuilio & Angelo Michell, 22 Trinity Pl., Albany, New York. **$45,854**. Bids 7/1. CD 6/18—ENR 6/26.

†**Mo., Fort Leonard Wood (Waynesville)**—Con. Q.M., concrete bridge with approaches, embankment, fill, to List & Weatherly Constr. Co., Ry. Exch., Kansas City, Mo. **$70,700**.

Que., Quebec City—Dpt. Roads, Quebec City, bridges, Blvd. Perron Hy., to A. Gagnon, 13 St. Joachim St. About **$30,000**.

STREETS AND ROADS

BIDS ASKED

Bids Asked August 25

Conn., Trumbull—Town, W. S. Bailey, selectman, Town Hall, paving, Unity, Elberta, Middlebrook, and Whitney Avenues, Berkshire, Sunset, Sunny Ridge, Crown, and Flint Streets, Cedar Crest, Teller Roads, Cottage Place. Over $25,000.

Bids Asked August 26

Indiana—J. D. Adams, chn. State Hy. Comn., Indianapolis, resurfacing 3.98 mi. LaPorte Dist., LaPorte-Lake Counties, Contr. M-2214; 7.85 mi. LaPorte Dist., St. Joseph Co., Contr. M-2215; 4.68 mi. Fort Wayne and Greenfield Dists., Allen, Noble, Wells and Blackford Counties, Contr. M-2216; 4.85 mi. Greenfield Dist., Madison, Delaware, Tipton

ROADS, etc. (Proposed Work, Cont'd.)

and Howard Counties, Contr. M-2217; 5.45 mi. Greenfield Dist., Hamilton, Hancock and Johnson Counties, Contr. M-2218; 5.87 mi. Greenfield Dist., Henry, Rush and Fayette Counties, Contr. M-2219; 2.4 mi. Greenfield Dist., Wayne and Union Counties, Contr. M-2220.

Indiana—State Hy. Comn., Indianapolis, paving, grading 0.649 mi. Clark Co.; 8.907 mi. Vigo and Clay Counties; grading, structures 4.629 mi., 1.818 mi., 4.719. Clark Co.

Indiana—State Hy. Comn., J. D. Adams, chn., Indianapolis, road resurfacing 1.51 mi. Crawfordsville Hy. Dist., Vigo Co.; 8.33 mi. Vincennes Hy. Dist., Posey and Knox Counties.

Iowa—State Hy. Comn., grading, widening, paving 0.089 mi. U.S. 30, DeWitt, Clinton Co.; grading 3.76 mi. Teeds Grove, FM-20, Clinton Co.; 0.407 mi. Co. Trunk Rd. H, Montgomery Co.; 2.566 mi. Co. Trunk Rd. T, 2.253 mi. Co. Trunk Rd. U, 6.176 mi. Co. Trunk Rd. F, 3.162 mi. Co. Trunk Rd. B, all foregoing Woodbury Co.; grading, incidental culvert work, 5.025 mi. Iowa and Farmington Twps., Cedar Co.; grading, gravel surfacing 3.513 mi. Co. Trunk Rd. E, 1.433 mi. Co. all foregoing Hamilton Co; 1.485 mi. Co. Trunk Rd. B, 2.75 mi. Co. Trunk Rd. E, both Hardin Co.; 1.704 mi. Co. Trunk Rd. K, Calhoun Co.; graveling 10.025 mi. Iowa and Farmington Twps., Cedar Co.; 30.948 mi. secondary roads, O'Brien Co.; bituminous surfacing 4.12 mi. Iowa 42 and U.S. 275, 3.5 mi. Iowa 174, 4.2 mi. Iowa 145, 0.556 mi. Iowa 239, all foregoing Fremont Co.; 1.742 mi. Iowa 5, Plymouth Co.; stabilized base and bituminous surfacing 6.849 mi. Iowa 184, Fremont Co.

N. Y., New York—President Bronx Boro, Bronx County Bldg., 851 Grand Concourse, graniteblock repaving Jerome Ave.; brick on concrete paving Anderson Ave.

★**Ohio**—State Hy. Dpt., Columbus, asphaltic concrete resurfacing 1.314 mi. Sects. D and Mt. Gilead of SH 334, U.S. 42, Marrow Co., $12,950; 2.328 mi. Sects. I, SH 17, U.S. 21, and Sect. E, SH 98, Summit Co., $39,300; grading, drainage structures, asphaltic concrete resurfacing and widening 1.041 mi. Sects. West Alexandria, F and E of SH 28, U.S. 35, Preble Co., $18,400; grading, drainage structures, waterbound macadam base widening, asphaltic concrete resurfacing 2.721 mi. Sects. G and F of SH 197, Clark Co., $65,550; grading, drainage structures, asphaltic concrete on waterbound macadam paving, 0.198 mi., concrete beam bridge and substructure, Sect. C of SH 13, Ashtabula Co., $35,500; grading, drainage structures, hot-mixed, hot-laid asphaltic concrete paving 5.527 mi. Sect. L of SH 21, U.S. 20, Fulton Co., $129,300; grading, drainage structures, rein.-con. paving 2.332 mi. Sects. A, B and Rome of SH 7, U.S. 52, Adams Co., $81,500; bituminous treatment 7.5 mi. Sects. E and F of SH 587, Knox Co., $12,729; asphaltic con. resurfacing, bituminous surface treatment, 1.401 mi., Sect. Geneva of SH 2, U.S. 20, Ashtabula Co., $19,600; bituminous premix material, widening, resurfacing 9.114 mi., Sects. K, L-1, L-2, Nashville and J of SH 145, Holmes Co., $52,300; grading, drainage structures, bituminous road mix surface paving, 5.03 mi., 2 continuous steel beam bridges, concrete decks over Sandy Creek, Sects. Zaleski, C and B of SH 597, Vinton Co., $172,500; asphaltic concrete or tar concrete resurfacing 0.179 mi. Sect. Smithfield of SH 678, Jefferson Co., $1,960; tar concrete widening, resurfacing 4.776 mi., Sects. A, J and K of SH 408, U.S. 21, Tuscarawas Co., $58,600; cleaning and excavating channel 0.02 mi. Salt Creek, Sect. A of SH 342, Holmes Co., $5,000.

Bids Asked August 28

Nebraska—State Dpt. Roads & Irrigation, Lincoln, graveling 10.6 mi. FAS 19-FAS-19B, Dubois-Barston Rd.; 10.7 mi. State Rd. 652-A and Patrol No. 81037, Burwell-Ericson Rd.; 14.4 mi. FA 322-A, B, C and F, Ord-Burwell Rd.; 13.6 mi. FA 229, Takamah-Decatur Rd.; 7.1 mi. FA 164 A and E, Hebron-Nelson Rd.; grading, graveling, sand clay surfacing, culverts, 12.2 mi. FA 164-B, C and D, Hebron-Nelson Rd.; grading, graveling, sand gravel surfacing, culverts and 5 bridges, 9.7 mi. FA 205 B and C; concrete paving 0.4 mi. FA-SN 29, Ogallala east, 0.6 mi. FA-SN, Grand Island-Shelton Rd.; paving 0.2 mi. FA-AN-10, Sutherland-North Platte Rd.; 0.4 mi. FA 122-A and E, in Beatrice; 0.2 mi. State Rd. 79 A, in Bridgeport; grading, culverts, roadside imprvs., FA 107 C and 107 F, Ashland-Gretna Rd.; paving 0.2 mi., graveling 11.8 mi., also grading, sand gravel surfacing, concrete paving, culverts, 9 bridges on FA 240-A; oiling 4.4 mi. State Rd. 157-D, Seward-David City Rd.; sand graveling 38 patrols in various sections.

New Hampshire—State Hy. Dpt., Concord, 4 in. on 12 in. gravel surfacing 0.875 mi. Mascoma Valley Rd., Grafton Co. $40,000. J. O. Morten, Concord, engr.

Tex., Ft. Worth—S. H. Bothwell, city mgr., widening driveways, storm sewers, curbs, gutters, Hemphill St. from Magnolia to Biddison Sts. $38,000. W. O. Jones, City Hall, engr.

Bids Asked September 3

California—C. H. Purcell, engr. State Hy. Dpt., Sacramento, grading 6.3 mi. road between Hopeland and Crawford Ranch, Mendocino Co.

Bids Asked September 4

N. J., Clayton—Boro, FA-BC-1 upon existing gravel surfacing 6,706 sq. yd. Broad St. J. G. Rentter, engr.

Bids Asked September 5

Kentucky—Dpt. Hys., Frankfort, resurfacing 5.705 mi. Covington-Lexington Rd., Florence to near Richwood, Boone Co.; grading, drainage, low type surfacing, 3.4 mi. Left Fork, Middle Creek Rd., near Goodloe Post Office toward Magoffin Co. line, Floyd Co.; medium type surfacing 9.776 mi. Jamestown-Albany Rd., Court House Square, to near Cumberland River, Russell Co.

Bids Asked

Ohio—State Hy. Dpt., Columbus, rejected bids Aug. 12, imprv. 9.85 mi. Coshocton and Muskingum Counties $22,635; 26.52 mi. Cuyahoga and Lake Counties $32,729. CD 7/29—ENR 7/31.

Virginia—Dpt. Hys., Richmond, rejected bids Aug. 7, imprv. 2.7 mi. Pittsylvania Co. CD 8/11—ENR 8/14, under LB.

West Virginia—State Rd. Comn., Charleston, rejected bids Aug. 12, imprv. 12 mi. U. S. 52, Wayne Co. CD 8/7—ENR 8/14.

LOW BIDDERS

Arizona—State Hy. Comn., Phoenix, Aug. 8, imprv. 6.5 mi. Navajo Co., from Wallace & Wallace, P. O. Box 276, Glendale. **$120,599.** CD 7/30.

California—C. H. Purcell, engr. State Hy. Dpt., Sacramento, Aug. 6, imprv. 2.3 mi. Yuba Co., from Hemstreet & Bell, P. O. Box 906, Marysville, **$26,772;** 0.2 mi. Fredonyer Summit, Lassen Co., from Paulos & McEwen, P. O. Box 1017, Sacramento, **$32,085.** CD 7/21—ENR 7/24.

Calif., Vallejo—City Aug. 6, imprv. Tennessee St., from A. G. Raisch, 2048 Market St., San Francisco, **$25,107.** CD 8/1.

Colorado—State Hy. Dpt., Denver, July 29, grading, drainage structures, surfacnig 0.589 mi. Washington, Morgan and Logan Counties, from Lawrence Constr. Co., 112 S. Elati St., Denver. **$58,345.** CD 7/21.

Colorado—State Hy. Dpt., Denver, Aug. 5, oil processed gravel surfacing 8.528 mi. Douglas Co., from E. Selander, Greeley, Colo., **$31,307;** 20.63 mi. Summit and Eagle Counties, from Larson Constr. Co., 2811 Walnut St., Denver, **$57,325.** CD 7/29.

★**Connecticut**—State Hy. Comn., W. J. Cox, comr., Hartford, Aug. 11, imprv. 22,214 ft., Trumbull, Stratford, and Shelton, from L. G. De Felice, 51 Alston Ave., New Haven, **$447,000*****14,939 ft., Bethany, from C. L. Hale Constr. Co., 124 Henry St., Manchester, **$58,961*****6,038 ft. Roxbury, from J. DeMichiel & Bros., 58 High St., Torrington, **$48,947.** CD 7/31—ENR 8/7.

Iowa—State Hy. Comn., Ames, Aug. 12, from Booth & Olson, 622 Ins. Exch. Bldg., Sioux City, imprv. 0.994 mi. FA 142(3), **$30,502;** 2.978 mi. FA 123 A, B, C(4), **$90,133;** 3.579 mi. FA 6(3), **$109,837,** all foregoing Ringgold Co.***from J. S. McLaughling & Son, 710 Walnut Bldg., Des Moines, 3.251 mi. Polk Co., **$178,196*****from Yant Constr. Co., 917 N. 45 St., Omaha, Neb., 9.016 mi. Wapello Co., **$84,471*****from H. C. Young, Monroe, 30.75 mi. Poweshick Co., **$29,072*****from Beu & Son, Sumner, 38 mi. Grundy Co., **$40,698***** from Mark Eischeid, New Hampton, 2.978 mi. Ringgold Co., **$35,755;** 3.579 mi. Ringgold Co., **$50,485*****from E. M. Duesenberg, Clear Lake, 3.251 mi. Polk Co., **$56,158.** Bids 8/12. CD 7/31.

Louisiana—State Dpt. Hys., Baton Rouge, Aug. 13, imprv. 8.065 mi. Lafourche Parish, from R. B. Levering Co., 1448 Levering St., Louisville, Ky., **$109,743.** CD 7/22—ENR 7/24.

★**†Mississippi**—Public Roads Administration, 219 Old Post Office Bldg., Vicksburg, Aug. 7, grading, drainage structures in connection with Project 3 M-1 Natchez Trace Parkway, Attala and Leake Counties, from F. S. Neely, Armory, **$538,252.** CD 7/16—ENR 7/24.

†N. J., Raritan and **Woodbridge**—War Dpt., 20 St. and Constitution Ave. N.W., Wash., D. C., concrete sidewalks at Raritan Arsenal, from Franklin Contg. Co., 20 Washington Pl., Newark, **$105,780.**

New York—A. W. Brandt, supt. P. Wks., Aug. 13, Albany, imprv. West and East Main Sts., Fredonia Village, Chautauqua Co., from Depew Paving Co., Inc., Depew, **$60,965.** Est. $63,406. CD 7/23—ENR 7/31.

North Carolina—State Hy. & P. Wks. Comn., Raleigh, Aug. 8, imprv. 11.38 mi. Vance Co., from Ballenger Paving Co., Greenville, **$45,696;** 16.78 mi. Wilson and Wayne Counties, from F. D. Cline, Fairview Rd., Raleigh, **$93,035.** CD 8/5.

★**N. Y., Harrison**—At office Westchester Cross County Parkway Auth., County Office Bldg., Martine Ave., White Plains, July 29, imprv. Hutchinson River Parkway, Contr. HR2, from Rusciano & Son Corp., 728 E. 212 St., New York. **$1,093,953.** CD 7/14—ENR 7/17.

Ohio—State Hy. Dpt., Columbus, Aug. 12, imprv. 1.278 mi. Lawrence Co., from Middle States Bituminous Corp., Box 267, Ironton. **$50,240.** Est. $52,000. CD 7/29—ENR 7/31.

★**South Dakota**—State Hy. Comn., Pierre, imprv. 8.882 mi. Spink Co., from S. E. Gustafson Constr. Co., Beresford, **$40,564*****11.233 mi. McCook Co., from E. A. Studer & Sons, Inc., Excelsior, Minn., **$54,458*****9.377 mi. Hanson Co., from D. Gustafson, Sioux Falls, **$39,688*****6.495 mi. Lawrence Co., from Inland Constr. Co., 3[illegible]7 Leavenworth St., Omaha, Neb., **$33,706*****[illegible].952 mi. Tripp Co., from Northwestern Eng. Co., Rapid City, **$84,675*****17.482 mi. Potter, Sully and Hughes Counties, from Northern Imprvt. Co., Fargo, N. D., **$109,923*****14.107 mi. and 3.989 mi. Hand Co., from J. L. Healy Constr. Co., Sioux Falls, and Lindekugel & Kolberg, Spencer, **$110,412** and **$26,668** respectively***10.538 mi. Todd Co., from C. H. Lien Constr. Co., Rapid City, **$100,261*****12.043 mi. Butte and Lawrence Counties, from S. S. Roberts Constr. Co., Rapid City, **$76,854.** CD 7/29—ENR 7/31.

Wash., Seattle—City, Aug. 14, grading, curbing, watermains, con. paving, 21,600 sq. yd., Stone Ave., from Northwest Constr. Co., 3950 Sixth Ave. N.W., Seattle, **$64,569.** Est. $63,192. CD 8/5—ENR 8/7.

Wash., Seattle—Removing tracks, repaving street, East Lake Ave., from T. Romano, 1833 Dearborn St., **$36,046.** C. L. Wartelle, County-City Bldg., engr.

Wis., Milwaukee—A. H. Hempt, ch. city clk., Aug. 11, imprv. W. Center and S. 6 Sts. and alleys, etc., from Bodemann Constr. Co., 2803 N. 55 St. **$65,176.** CD 8/7.

Man., Winnipeg—Municipality, c/o G. F. Bentley, city clk. paving, day labor. **$29,000.** W. P. Bretherton, City Hall, engr.

CONTRACTS AWARDED

†Ala., Fort McClellan (Anniston)—Con. Q.M., sidewalks, to Ledbetter-Johnson Co., Rome, Ga., **$84,625.**

Ala., Gadsden—T. E. Watford, city engr., curbing, guttering, sidewalks, asphaltic concrete on macadam paving 25,270 sq. yd. streets, to Southern Bitumen Co., 3200 Ave. A, Birmingham, **$38,025.** Est. $42,038. Bids 8/12.

†Ark., Little Rock—Con. Q.M., Camp Joseph T. Robinson, concrete sidewalks and roads, to D. F. Jones Constr. Co., Insurance Bldg., **$49,850** and **$25,750** respectively.

Ark., Searcy—H. Moody, judge White Co. imprv. roads. **WPA. $210,014.**

Calif., San Francisco—Southern Pacific R.R., W. H. Kirkbride, ch. engr., 65 Market St., asphaltic concrete paving 4 and Berry Sts., to Pacific Pavements Co., 85 Barstow St. **$25,200.**

Georgia—State Hy. Dpt., Atlanta, resurfacing 40.913 mi. and resurfacing 15.983 mi. McIntosh, Glynn and Camden Counties, to W. L. Cobb Constr. Co., Decatur. **$211,024.** CD 8/6—ENR 8/14.

Idaho—State Hy. Dpt., Boise, realigning, excavating, grading, surfacing, 2.8 mi. U. S. Hy. 10, Coeur d' Alene to Bennett's Bay. **WPA. $68,261.**

†Kan., Fort Riley—Con. Q.M., road surfacing, to San-Ore Constr. Co., McPherson, and M. W. Watson, Natl. Bank Topeka Bldg., Topeka, **$65,841;** sidewalks, to San Ore Constr. Co., McPherson, **$77,061.**

Maine—State Hy. Comn., Augusta, imprv. 0.93 mi. Alfred, to W. H. Hinman, North Anson, **$31,315,** 1.6 mi. Macwahoc, to Bridge Constr. Co., Hazardville, Conn., **$45,491.** Bids 8/6, awarded 8/13. CD 7/31.

Massachusetts — Commonwealth of Mass., Dpt. P. Wks., Boston, bituminous macadam surfacing Churchill St., Pittsfield, to Lindholm Constr. Co., Inc., 1277 East. St., Pittsfield. **$63,559.** Bids 7/29, awarded 8/13.

Mass., Dorchester (sta. Boston)—P. Wks. Dpt., City Hall Annex, Boston, bituminous concrete paving, Glover Court, etc., to M. J. Kelly, 95 Prince St., Jamaica Plain, Boston. **$30,962.** Bids 8/6, awarded 8/13. CD 7/28—ENR 7/31.

†Mo., Fort Leonard Wood (Waynesville)—Con. Q.M., road surfacing, to Granite Bituminous Paving Co., 3943 Duncan St., St. Louis, **$185,840*****constructing roads and resurfacing roads, to O'Dell Riney Constr. Co., Hannibal, **$33,852** and **$120,600** respectively***road surfacing, to Koss Constr. Co., 205 Old Colony Bldg., Des Moines, Ia., **$130,973.** Grand total $471,265.

Mont., Sidney—Grading, paving 43 blocks streets to Albert LaLonde & Co., Sidney, approx. **$95,000.** Bids 7/21. CD 7/3—ENR 7/10.

New Jersey—Essex Co., Hall Records Bldg., Newark, excavating, grading, asphaltic paving, Orange Rd., Montclair, resurfacing, sheet asphalt Co. roads, to Franklin Contracting Co., 20 Washington St., Newark, **$28,350.** W. Stickel, Hall Records Bldg., Newark, engr.

N. J., Bayonne—City Hall, excavating, grading, removing old granite blocks, repaving bituminous surfacing, various streets, WPA. **$52,500.** C. Malstrom, Orange and N. 6 Sts., Newark, owners and WPA engr.

†N. J., Fort Dix—Con. Q.M., constructing roads, etc., to Union Paving Co., Broad and Stiles Sts., Phila., Pa. **$222,170.** Bids 7/29, awarded 7/31.

†N. J., Fort Monmouth—Con. Q.M., paving parked areas and roads leading to parking yards, to Kingston Bituminous Products Co., Kingston. **$37,963.** Awarded 8/11.

ROADS (Contracts Awarded, Cont'd.)

N. J., Grosswicks—Florence Twp. Com., rebuilding Old York Rd. from Grosswicks to Chesterfield, from J. Lafferty, Haddon Heights. **$36,400.**

N. J., Jersey City—Hudson Co., Court House, grading, paving roads. **WPA. $75,000.** F. Radigan, Court House, Jersey City, WPA and city engr.

N. J., Somerville—Boro, type A or T surface on modified penetration macadam surface and macadam fdn. 11,980 sq.yd. W. Cliff St., to Richards & Gaston, Inc., 110 S. Bridge St. **$29,616.** Bids 7/2. CD 6/25.

N. Y., Dunkirk—Repaving East Lake Shore Dr., 2 and Deer Sts., own forces. **$25,000.** A. G. Walter, city engr.

★**N. Y., New York**—Comr. Parks, at office Dpt. Parks, Arsenal Bldg., Central Park, 5 Ave. and 64 St., imprv. Francis Lewis Blvd., grade separations, Grand Central Parkway, etc., Contr. F.L.B. 41-1, Queens Boro, to B. Turecamo Contg. Co., foot of 24 St., Brooklyn. **$775,747.** Bids 7/18. CD 7/21—ENR 7/24, under LB.

Ohio—State Hy. Dpt., Columbus, imprv. 22.94 mi. Henry Co., to F. R. Creager, 208 Mape Ave., Liberty Center, **$26,461**, est. $27,891 ***70.41 mi. Belmont, Harrison and Jefferson Counties, to Tri-State Asphalt Corp., S. Broadway, Martins Ferry, **$79,515**, est. $79,774*** 54.85 mi. Holmes and Tuscarawas Counties, to E. Spring, Inc., Third St., Dover, **$46,950**, est. $46,953***35.48 mi. Lorain and Medina Counties, to H. J. Hart, 419 Elyria Blk., Elyria, **$37,549**, est. $37,549***27.27 mi., Williams Co., to P. G. Ward, Leipsic, **$31,821**, est. $31,827*** 0.331 mi. Morrow Co., to R. K. McNamarra, R. F. D. 4, Delaware, **$53,721**, est. $63,500*** 7.279 mi. Portage Co., to Ohio Road Imprvt. Co., Chamber of Commerce Bldg., Columbus, **$33,094**, est. $33,200***0.662 mi. Ross Co., to W. J. Seidensticker Co., Box 26, Bexley Station, Columbus, **$40,455**, est. $42,600***41.03 mi. Clermont Co., to L. P. Cavett Co., 500 Shepherd Ave., Lockland, **$31,470**, est. $31,845***2.444 mi. Holmes Co., to J. H. Blausey & Co., 105 S. Walnut St., Woodville, **$96,330**, est. $96,330*** 2.125 mi. Knox Co., to Boyd & Cook Co., Gas & Electric Bldg., Dayton, **$31,281**, est. $31,300. Grand total, $508,737. CD 7/29—ENR 7/31.

†S. D., Fort Meade—Con. Q.M., roads and parking areas, to Northwestern Eng. Co., Rapid City, **$39,460.**

†Tex., Camp Barkeley (Abilene)—Con. Q.M., 51,439 sq. yd. parking surface, grading, etc., to Bell & Braden, Amarillo, and C. Hunter, San Angelo. **$93,892.** Bids 7/29.

Tex., Edna—Jackson Co., c/o Judge. 42 mi. roads, Dist. 10, to H. Page, Georgetown Rd., Austin, **$138,640;** 4.3 mi. Hy. Ill., to Haden & Austin, 1st Natl. Bank Bldg., Houston, **$46,144.** est. $70,000.

†Utah, Ogden—Con. Q.M., Utah General Depot, bituminous surfaced roads and hard standings for motor vehicles and sidewalks at Utah General Depot, also 50,000 sq. yd. concrete pavement, to Ora Bundy, 226 Kiesel Bldg., Ogden, **$216,550.**

Vermont—State Hy. Dept., H. E. Sargent, ch. engr., Montpelier, crushed gravel mixed in place surface course, cutback asphalt, and refined tar 1,517 mi., FAP 93 G(1), Winhall, to Ellsworth H. Lewis, 47 Haverhill St., Andover, Mass., **$132,181.** Bids 8/1; awarded 8/13. CD 7/28.

†Washington—U. S. Eng., Central Bldg., Seattle, road from Neah Bay to top of Bahokus Peak, Clallam Co., to L. Coluccio, 1642 Lane St., Seattle, **$50,155.** Bids 6/23.

Wash., Spokane—Spokane Co., bituminous road—mix surfacing 13.3 mi., and retread surfacing 7.5 mi. roads, Deer Park, Green Bluff, Milan, Elk and Waverly, to Standard Asphalt Paving Co., Chronicle Bldg., **$37,417.** Bids 8/11. C. F. Griggs, Courthouse, engr.

West Virginia—State Rd. Comn., Charleston, imprv. De Kalb—Latonia Rd., Gilmer Co., to Fuccy Bros., Weston, **$70,344;** 2 mi. East Park Ave., and Speedway, Marion Co., to Fimple Constr. Co., Fairmount, **$173,156.** Bids 8/12. CD 8/7—ENR 8/14.

Wis., Milwaukee—City, A. H. Hempe, ch. clk., W. Center St., to Milwaukee Constr. Co., 2808 N. Sherman Blvd., **$28,847.** S. 6 St., to B. A. Froemining Co., 2929 N. Holton St., **$27,249.** CD 8/15—ENR 8/21.

Alta., Suffield—Dpt. National Defense for Air, Ottawa, Ont., surfacing roads, Field Experimental Station, to F. R. Gibbs, Medicine Hat. **$27,000.**

N. B., Campbellton—J. F. Reid, municipality clk., bituminous paving several streets, to Bituminous Paving Co. Ltd., 437 Fleet St., Toronto, Ont., **$35,000.**

N. B., Moncton—Dpt. P. Wks., Fredericton, Rd., Lakeburn, to Rayner Constr. Co., Ltd., paving 4 mi. Lyer Corner-Moncton Airport 9 Commercial St., Leaside, Ont., about **$55,000.**

Nova Scotia—Province of Nova Scotia, Halifax, graveling, 20 mi. hy. Port Philip, day labor. **$35,000.** D. MacKenzie, Dpt. Hys., Halifax, engr.

N. S., Stellarton—G. Henderson, town clk., Town Hall, paving streets, to Warren Bituminous Paving Co., Ltd., 437 Fleet St. W., Toronto, Ont., about **$45,000.**

Ont., Hamilton—Asphalt roadways, Dorset Pl. and Kipling Rd., day labor under supervision W. L. McFaul, city engr. **$30,000.**

Ont., London—Asphalt resurfacing sections Richmond and Ridout Sts., own forces. **$35,000.** A. Garrett, City Hall, engr.

Ont., Ottawa—Ottawa Suburban Roads Comn., 279 Carling Ave., road repairs, widening Hogs Back Rd., to McNally, Patterson & Hanes, Hogs Back Rd. **$113,900.** A. K. Hay, c/o owner, engr.

Ont., Ottawa—Carleton Co., c/o H. Washington, Court House, road construction, day labor. **$36,000** voted.

Ont., Overbrook—Gloucester Twp., c/o W. J. Perrault, Overbrook, road construction, day labor under supervision W. L. Barthwick, Hurdman's Bridge, Ottawa. **$42,000** voted.

Ont., Prescott—Municipality, c/o W. J. Ranson, clk., retread paving, George and Henry Sts., day labor. **$25,000.**

Quebec—Provincial Dpt. Roads, Quebec City, bituminous concrete paving Charny St.-Romuald Rd. and branch road to Garneau Bridge, and 3.8 mi. Lake Beauport Rd., Notre Dame des Laurentides and St. Dunstan du Lac, Beauport, to Union Quarries & Paving Co., Ltd., 42-2 Ave., Quebec City, **$31,500** each***12.9 mi. hy. 55, to Massicotte et Fils, Cap de La Madeleine, **$85,700***** 16.5 mi. Hy. 2, Riviere du Loup, St. Antonin, St. Honore, St. Louis du Ha Ha, and Ste. Rose du Degele, to H. J. O'Connell, Ltd., 606 Cathcart St., Montreal, **$90,600*****grading, graveling, 6 mi. Chateau-Richer-Ste. Anne de Beaupre and 4 mi. hy. St. Joseph, Beauce Co., to U. Ste. Marie, 61 St. Cleophas St. Beauport, **$100,000** and **$103,000** respectively. Grand total $339,300. Bituminous concrete paving Hy. 15, Courville-Beaupre, day labor.

Quebec—Dpt. Roads, Quebec City, gravel, waterbound macadam surfacing 25 mi. roads, to N. Trudel & Sons, Ste. Irene, **$127,800.** E. Gohier, Dpt. Roads, Quebec City, engr.

Que., Arvida—Streets, extens., to J. J. Riverni, Rouge St. Paul, Chicoutimi, about **$75,000.** F. Calder, 908 Second St., engr.

Sask., Duck Lake—Province of Saskatchewan, Regina, regrading, regraveling, to Nott & Sibbald Ltd., Prince Albert. Est. **$45,000.**

EARTHWORK, WATERWAYS

PROPOSED WORK

†Idaho-Oregon—Bureau Reclamation, Boise, Idaho, bids this year rehabilitating Ontario-Nyssa and Gem district pump. plants and lateral sys. for Ontario-Nyssa and Kingman areas, constructing addns. wasteways and drainage sys. on Owyhee project. $200,000.

†Kansas—U. S. Eng., 601 Davidson Bldg., Kansas City, Mo., removing points from channel Missouri River, either by dredging or dragline between Rulo and Little Platte Bends, center of work near Atchison, est. yardage 250,000 yd. $25,000.

†Missouri—U. S. Eng., 601 Davidson Bldg., Kansas City, 5,590 ft. dikes, 5,250 ft. revetment, excavating 430,000 yd. earth for pilot canal between Malta and Rocheport Bends in Missouri River, 4 mi. downstream from Glasgow. $250,000.

†Missouri—U. S. Eng., 601 Davidson Bldg., Kansas City, Mo., removing points from channel Missouri River between Quindaro and Amazon Bends, center of work being near Bonneville, dredging or dragline, 500,000 cu. yd. earth to be removed. $50,000.

★**†Mont., Fairfield**—Bureau Reclamation, Fairfield, bids this year additional drainage work, Sun River project. $733,400.

†Nebraska—U. S. Eng., 1709 Jackson St., Omaha, approx. 12,448 ft. revetment in Missouri River between Papillion and Nishnabotna Bends, 6 mi. upstream from Nebraska City. $275,000.

†O., Cincinnati—U. S. Eng., Federal Bldg., rejected bids Mill Creek Valley Barrier Dam. New bids early September. CD 7/30—ENR 8/7, under LB.

★**Tex., Corpus Christi**—City and Nueces Co., drainage project within city and suburban areas. $4,137,463. G. Blackburn, city engr., and County Eng. Branch., engrs.

★**Tex., Houston**—Harris Co. Flood Control Auth., bids soon Barker Dam, earthern dike and reservoir for flood waters. $1,958,400 Funds available. U. S. Dist. Eng., Santa Fe Ry. Co. Bldg., Galveston, engr. and R. J. Cummins, Bankers Mortgage Bldg., to consult. engr.

†Wash., Coulee Dam—Bureau Reclamation, Coulee Dam, bids this year earthfill dam across south end Grand Coulee, bids about 1943 for similar dam across south end.

†Wash., Yakima — Bureau Reclamation, Yakima, reconstructing 4,000 ft. section of 56 in. Mabton woodstave siphon, replacing 4,300 ft. 31 in. wood stave and concrete pipe in Prosser siphon, replacing 3,740 ft. 24 and 26 in. wood stave pipeline on Lateral 59.31, reconstructing 920 ft. 48 in. wood stave pipe Siphon 1 on Benton Canal, line with concrete 10,000 ft. branch canals and laterals, reconstructing structures in canal and lateral sys. $100,000.

†Mont., Fairfield — Bureau Reclamation, Fairfield, bids this year 8 mi. feeder canal, enlarging Willow Creek reservoir from 16,700 ac. ft. to 42,000 ac. ft. capacity.

†Neb., Decatur—U. S. Eng., 1709 Jackson St., Omaha, 15,314 ft. revetment in Missouri River between Snyder and Louisville Bends, 10 mi. upstream from here. $300,000.

†Ore., Klamath Falls—Bureau Reclamation, Klamath Falls, bids this year 3,500 ft. outlet canal from Tule Lake Tunnel to Lower Klamath Lake basin, Modoc Unit, Klamath Project.

†Rhode Island—U. S. Eng., 819 Industrial Trust Bldg., Providence, dredging, imprv. channel, 10 ft. deep, 100 ft. wide, Wickford Harbor across Wickford Cove and entrance channel. $45,000.

★**Texas**—Lower Colorado River Auth., Austin and Marshall Ford competitive bids soon levees to protect La Grange, Columbus, and channel cut-off at Wharton, etc. $6,500,000. CD 5/7—ENR 5/15.

★**†Texas**—U. S. Eng., Santa Fe Ry. Bldg., Galveston, enlarging Pt. Isabel Turning Basin, deepening Brazos Pass, dredging channel to Pt. Isabel and Brownsville, etc. $762,500.

†Wash., Coulee Dam—Bureau Reclamation, Coulee Dam, bids this year pump, plant to lift irrigation water for Columbia Basin irrigation project from storage reservoir into Grand Coulee distr. reservoir, capacity 19,200 sec. ft.

N. B., Moncton—Canadian National R.R., F. O. Condon, Moncton, ch. engr. (Atlantic Region) rein.-con. retaining wall along Foundry St., etc. $25,000.

BIDS ASKED

Bids Asked August 29

†Mo., Lexington—U. S. Eng., 601 Davidson Bldg., Kansas City, 4,850 ft. dikes and 5,880 ft. revetment in Missouri River between Quindaro and Malta Bends, 9 mi. upstream from here. $200,000. CD 8/5—ENR 8/7.

Bids Asked September 2

†Arizona-California-Nevada—Bureau Reclamation, Customhouse, Denver, Colo., furnishing, del. turbine-inlet pipe for Unit A-5 in Boulder power plant, Boulder Canyon Project, Spec. 1547-D.

Massachusetts—Commonwealth of Mass., Dpt. P. Wks., H. L. McDonald, comr., 100 Nashua St., Boston, dredging 15,000 cu. yd. material, Cohasset Harbor, Cohasset, $10,000; seven 200 ft. jetties, Sandwich. $15,000.

†Washington—Bureau Reclamation, Customhouse, Denver, Colo., furnishing, del fabricated structural steel for three 95 ft. tower assemblies and extens. for 115 kv. transformer circuits for Grand Coulee power plant, Columbia River Basin Project, Spec. 1548-D.

Bids Asked September 3

†Arizona-California-Nevada—Bureau Reclamation, Denver, Colo., materials for protective fence for Boulder switchyard, Boulder Canyon Project.

Bids Asked September 4

†Wyoming — Bureau Reclamation, Denver, Colo., high pressure gate assembly for gate chamber of outlet works at Big Sandy Dam, Eden Project.

Bids Asked September 5

†Arizona-California — Bureau Reclamation, Denver, Colo., riveted-plate-steel, make-up piece for penstock 4, Parker power plant, Parker Dam Project.

†Ohio—U. S. Eng., Huntington, W. Va., dredging 263,000 cu. yd. in Ohio River at Marietta Island, about 1.8 mi. below Lock and Dam 17; adv. ENR 8/21.

Bids Asked September 9

†California — Bureau Reclamation, Denver, Colo., radial gates and hoists for Madera Canal, Friant Div., Central Valley Project.

†California — Bureau Reclamation, Denver, Colo., four fixed wheel gate frame for fixed wheel gates to be installed at inlets to Friant-Kern Canal outlets at Friant-Dam Central Valley Project.

Bids Asked September 12

†Washington—Bureau Reclamation, Yakima, earthwork, pipe lines, structure laterals 41.6 to 49.7 and sublaterals, Roza Div., Yakima Project.

Bids Asked September 18

†Vt., Burlington — U. S. Eng., Whitehall Bldg., 17 Battery Pl., New York, N. Y., repairing and improving 130 lin. ft. stone protection mound in breakwater; adv. ENR 8/21.

LOW BIDDERS

California—State Engineer, Div. Water Resources, 401 P. Wks. Bldg., Sacramento, Aug. 8, imprv., enlarging east levee of Sutter By-Pass and levees of Wadsworth Canal, from Parish Bros., Box 566, Fairfax. **$179,000.** CD 7/23——ENR 7/31.

EARTHWORK, etc. (Low Bidders, Cont'd.)

Calif., La Jolla—University of California, 405 Hilgard Ave., West Los Angeles, Aug. 8, concrete sea wall, Scripps Institution of Oceanography, from Andy Sordall, 7222 Magnolia St., Long Beach. **$29,849.** CD 7/22—ENR 7/24.

†Connecticut — U. S. Eng., 819 Industrial Trust Bldg., Providence, R. I., Aug. 15, dredging 280,000 cu. yd. in Stamford Harbor, Inc. 699-42-19, from Lavigne & Smith, Inc., 18 Taunton Ave., East Providence, R. I. **$81,844.** CD 7/29—ENR 7/31.

†Conn., East Hartford—U. S. Eng., 819 Industrial Trust Bldg., Providence, R. I., 1 story, 26x54 ft. pump. station Meadow Hill flood control project, from F. T. Westcott, 95 High St., North Attleboro, Mass. **$128,721.** CD 7/2—ENR 7/10.

†Maryland — U. S. Eng., 332 Post Office Bldg., Baltimore, Aug. 13, dredging 119,000 cu. yd. Chesapeake Bay and Fishing Creek, Calvert Co., from Steen Eng. Corp., 541 Front St., Norfolk, Va. **$39,270.** CD 7/29—ENR 7/31.

†Mass., Winchendon—U. S. Eng., 819 Industrial Trust Bldg., Providence, R. I., Aug. 11, 2,500 ft. dike for protection filter beds, Birch Hill reservoir area, east bank Millers River, from Guerini Constr. Co., Inc., 524 River St., Mattapan. **$42,317.** Est. $49,805. CD 7/15—ENR 7/17.

★**†N. Y., Corning**—U. S. Eng., Security Mutual Bldg., Binghamton, Aug. 14, imprv. existing and new flood protective works, flood protection project, Sect. 2, from H. F. MacLean, Inc., Mt. Kisco. **$697,868.** CD 8/4—ENR 8/7.

†Ore., Bonneville—U. S. Eng., 628 Pittock Blk., Portland, Aug. 12, furnishing benchboard sections, control cubicles and annunciator assemblies for Bonneville powerhouse, Inv. 698-42-13, from Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa. **$45,254.** CD 8/1.

Pa., Brownsville—U. S. Eng., Federal Bldg., Pittsburgh, Aug. 13, river wall, Lock 5, Monongahela River, removing present wall, constructing new wall, operating building, etc., from Dravo Corp., Neville Island, Pittsburgh. **$245,734.** CD 6/17.

CONTRACTS AWARDED

★**†California** — Bureau Reclamation, Old Post Office Bldg., Sacramento, first part Keswick Dam to regulate variable water released by Shasta Dam Power Plant, etc., to Guy F. Atkinson Co., Russ Bldg., San Francisco, and W. E. Kier Constr. Co., 747 3 St., San Diego. **$2,736,628.** Total est. $12,500,000. CD 8/5—ENR 8/7.

Calif., Carmichael—Carmichael Irrigation Dist. exten. water distr. facilities, **WPA. $30,618.**

†Miss., Gulfport—U. S. Eng., Mobile, dredging, to Standard Dredging Corp., 80 Broad St., New York, N. Y. **$40,950.** CD 6/30—ENR 7/3.

†N. J., Fort Hancock (Highlands)—War Dpt., 20 St. and Constitution Ave. N.W., Wash., D. C., metal bulkhead piling, etc., to Spiniello Constr. Co., 437 Riverside Ave., Newark. **$48,640.**

†N. Y., Buffalo—U. S. Eng., 540 Federal Bldg., dredging Buffalo River and Buffalo Ship Canal, to Great Lakes Dredge & Dock Co., Morgan Bldg. **$68,040.**

Tex., Port Isabel—R. W. Roloff & Sons, Harlingen, and Port Isabel, open ditch irrigation canals, to Dodds & Wedegartner, Inc., 382 N. Bowie St., San Benito, and F. M. Reising Constr. Co., 723 W. Kruttschnitt St., Edinburgh, approx. **$82,000.** Est. $100,000. Tamm & Fitzgerald, 107 S. 1 St., Harlingen, engrs.

N. B., Saint John—Secretary Dpt. P. Wks., Ottawa, Ont., dredging deep water berths, St. John Harbor, to Saint John Dry Dock Co., Ltd., Bayside Dr. **$89,700.** Bids 7/24. CD 7/16.

Ont., Port Arthur—P. A. Shipbuilding Co., Ltd., revetment wall, to Thunder Bay Ltd., 16 Ruttan, Port Arthur. Est. **$50,000.** CD 7/2—ENR 7/10.

UNCLASSIFIED

PROPOSED WORK

★**Colorado** and **Nebraska**—RURAL ELECTRIC LINES—High Line Electric Assn., T. G. Puryear, supt., Holyoke, 939 mi. rural lines, Phillips, Sedgwick, Logan, Yuma, and Washington Counties, Colo. and Perkins, Chase, Dundy, Hitchcock, Hayes, Redwillow and Frontier Counties, Neb. $777,000 REA allot.

★**†Me., Houlton**—AIR BASE—U. S. Eng., 1st and Douglas Sts. N.W., Wash., D. C., air base. $2,418,000.

★**Mo., St. Louis**—PARKS, etc.—C. H. Ellaby, pres. Bd. Pub. Serv., 304 City Hall, imprv. parks, playgrounds, various parts city, $5,000,000; opening, widening, paving, streets, sidewalks, etc., vicinity War Dpt. plants, Bircher and Goodfellow Blvds., $3,000,000; 2 recreational centers for soldiers, $150,000. Applied for PWA funds.

★**Mo., St. Louis** — RECREATIONAL CENTER—St. Louis Co. Court, Court House, Clayton, St. Louis, recreational center, Greve Coeur Lake and adjacent 800 acres land, incl. beaches, boat dock, tennis courts, baseball diamonds, handball courts. $1,000,000. Applied for PWA funds. Horner & Shifrin, International Office Bldg., engrs.

★**N. C., New River**—LANDING FIELD—Bureau Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., D. C., landing field for training parachute troops at Marine Barracks. $800,000.

★**Okla., Oklahoma City**—AIRPORT ADMINISTRATION BUILDING, etc.—Plans nearing completion administration bldg., hangar, Municipal Airport 2. $527,000. Sorey, Hill & Sorey, 1st Natl. Bank Bldg., archt.

★**†Ore., Portland**—AIRBASE—U. S. Eng., 628 Pittock Blk., doubling size airbase, 90 building addns. Immediate construction 4 buildings, streets, walks, other utilities is to be undertaken with $182,000 now available. Total est. $1,250,000.

★**Texas**—OIL PIPE LINE—Stanolind Pipe Line Co., Ranger, and c/o Fair Bldg., Fort Worth, 225 mi. 8 or 10 in. steel crude oil pipe line between Ranger and Midland. $600,000.

★**Tex.** — TRANSMISSION LINES — Brazos River Transmission Electric Cooperative, Inc., 4613 Camp Bowie Blvd., Fort Worth, transmission lines, Brazos Co. $1,300,000 allot.

★**Tex., Houston**—TUNNEL—Harris Co., c/o Judge, concrete, steel tunnel under ship channel. $5,000,000. H. W. Zapp, c/o Court House, co. engr. CD 8/5—ENR 8/7.

★**Tex., San Antonio**—COLISEUM, etc.—C. H. Quinn, mayor, plans by C. Smith, DeH. Pitts and C. T. Weidner, coliseum and horse barns, garage, repair bldg., for use Texas State Defense Guard. $1,880,220. Applied for PWA funds.

★**†Washington** — TRANSMISSION LINE — Bonneville Power Administration, P. O. Box 3537, Portland, Ore., 60 mi. 115,000 volt transmission line from Spokane to Colfax, with necessary substation equip. $856,000.

★**†Wash., Oak Harbor**—SEAPLANE PARKING AREA—Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., D. C., 140,000 sq. yd. seaplane parking area for new Naval Air Station. $560,000.

★**†Alaska, Unalaska** — NAVAL — AIR STATION—Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., D. C., additional buildings, accessories for Naval Air Station. $4,346,000.

★**†Me., Presque Isle and Houlton** — AIR FIELDS—U. S. Eng., 1 and Douglas Sts., N.W., Wash., D. C., auxiliary air fields, for Army and British flyers ferrying planes to England. $5,498,000.

†Washington—SUBSTATION CONDENSERS—Bonneville Power Administration, P. O. Box 3537, Portland, two 35,000 kva. synchronous condensers for substations, Covington and Ampere, Inv. 2115. Extended date. CD 7/31.

BIDS ASKED

Bids Asked August 27

†Calif., Muroc Lake—GAS FUELING SYSTEM—U. S. Eng., 751 S. Figueroa St., Los Angeles, A.C. Gas fueling sys.

Bdis Asked September 3

Calif., San Luis Obispo—UNDERGROUND SERVICES—A. Boyd, state archt., P. Wks. Bldg., Sacramento, underground electric services concrete encased unground power phone ducts, etc., California Polytechnic School.

Bids Asked September 11

Ill., Chicago—TRACK, etc.—At office P. Harrington, comr. Subways & Superhighways, 20 N. Wacker Dr., Contr. T-2, furnishing track and contact rail materials, State St. Subway; adv. ENR 8/21.

Bids Asked

★**Texas** to **New York**—PIPE LINE—National Defense Pipe Lines, Inc., and Emergency Pipelines, Inc., c/o C. L. Lockett, 30 Rockefeller Plaza, New York, N. Y., pipe for 1820 mi. pipe line as follows: 490 mi. 22 in. pipe line from Shreveport, La., to Salem, Ill.; 65 mi. 16 in. pipe line from Salem to Wood River, Ill.; 1,200 mi. 24 in. pipe line from Salem, Ill., to New York and Phila., Pa.; 65 mi. pipe line from East Texas fields to Shreveport.

LOW BIDDERS

Calif., San Bruno—AIRPORT PAVING—Public Utilities Comn., City Hall, San Francisco, Aug. 7, paving, San Francisco (Mills Field) municipal airport, Contr. 64, from Eaton & Smith, 715 Ocean Ave., San Francisco. **$74,935.** CD 8/4.

Idaho, Priest River—GENERATING PLANT—Northern Idaho Rural Electrical Rehabilitation Assn., 113 Cedar St., Sand Point, Aug. 12, hydro-electric generating plant, from Vernon Bros., 9 and Orchard Sts., Boise. **$115,746.** CD 7/31.

★**†Mass., Chicopee**—RUNWAYS—U. S. Eng., 819 Industrial Trust Bldg., Providence, R. I., Aug. 15, paved runways, Westover Field, Inv. 699-42-28, from B. Turecamo Contg. Co., foot 24 Ave., Brooklyn, N. Y., **$532,041.** CD 8/11.

N. Y., New York—DUMPING BOARD—At office President Manhattan Boro, Municipal Bldg., Aug. 12, completion Contr. 9C, general contract sanitation dumping board E. 60 St. East River Dr., imprvt. E. 40 to E. 99 Sts., from Lynn Constr. Co., 11 W. 42 St., New York. **$85,600.** CD 8/5—ENR 8/7.

†Va., Arlington—PARKING AREAS—Con. Q.M., parking areas, fences, gate, sentry boxes, additional paving, etc., from Helsing Co., Inc., Woodward Bldg., Wash., D. C. **$33,550.**

CONTRACTS AWARDED

Calif., Los Angeles—SERVICE STATIONS—Owner, c/o contractors, eleven steel service stations, to Reno Steel & Metals Corp., 4407 San Fernando Rd., Glendale, approx. $40,000.

Calif., San Pedro — DOCKS — Consolidated Steel Corp., Slauson at Eastern Aves., Los Angeles, 1,800 ft. docks at shipbuilding plant, West Basin, Los Angeles Harbor, to Raymond Concrete Pile Co., Washington Bldg., Los Angeles. **$383,000.**

†Fla., Tampa—RUNWAYS AND APRON EXTENSIONS—U. S. Eng., MacDill Field, runways and apron exten., to Ebersbach Constr. Co., Stovall Office Bldg. **$288,860.**

†Ga., Atlanta—HARDSTANDING PARKING AREA—Con. Q.M., Fort McPherson, hardstanding parking area, to Asphalt Products Co., 740 Hornady St., **$33,850.**

†Ga., Columbus—RUNWAYS, etc.—U. S. Eng., Mobile, Ala., runways, taxiways, roads, walks, fiield drainage, pipe culverts, Lawson Field, to W. L. Cobb Constr. Co., Montgomery, Ala. **$481,812.** CD 6/17—ENR 6/19.

†Ky., Fort Knox — FIELD HOUSE — Con. Q.M., field house, to F. W. Owens Co., 119 N. 5 St., Louisville. $83,000.

★**†La., Lake Charles**—FLYING SCHOOL—U. S. Eng., 1 and Douglas Sts. N.W., Wash., D. C., advanced single engine flying school, 125 temporary buildings, fencing, railroad spur, roads, utilities, to T. L. James & Co., Inc., Ruston. **$1,604,236.** CD 8/7—ENR 8/14.

★**†La., Lake Charles**—FLYING FIELD—U. S. Eng., 1 and Douglas Sts. N.W., Wash., D. C., clearing, draining, paving, sewage disposal plant for flying field, to F. Shutts Sons, Lake Charles. Est. **$1,380,000.**

Missouri—RAILROAD LINE, etc.—Chicago, Rock Island & Pacific Ry., W. H. Hillis, asst. ch. oper. off., La Salle St. Station, Chicago, Ill., 15 mi. main line railroad between Mercer and Princeton, to Condon & Kiewit, 208 Grain Exch., Omaha, Neb.; concrete, steel bridge over Grand River, near Princeton, to Alexander & Repass, 309 Security Bldg., Des Moines, Ia.

†N. J., Fort Dix—HARD STANDING PARKING AREAS—Con. Q.M., hard standing parking areas, to Harry Eisenberg, Inc., Collingswood. **$190,220.** Bids 7/29, awarded 7/31.

N. J., Jersey City—PIERS—Pennsylvania R.R. Co., C. E. Adams, ch. engr. (New York Zone) Penn. Station New York, 251 ft. pier addn., 2 St., to Allen W. Spooner & Son, Pier 11, North River, New York. **$90,000.**

Oklahoma — OIL PIPE LINE — Anderson Pritchard Oil Co., Ramsey Tower Bldg., Oklahoma City 7 mi. 6 in. oil pipe line from Cement to AP Refinery, Cyril, company forces. **$25,000.**

†Ore., Empire—SECTION BASE—Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., D. C., section base for small craft, bulkhead, wharf, dredging, filling, building, etc., to Austin Co., 16112 Euclid Ave., Cleveland, O. **$156,800.**

Pennsylvania—OIL DEVELOPMENT—Williams Oil Co., Box 12, Bradford, development crude oil properties on Music Mountain, 10 mi. south of Bradford, drilling wells, connecting and gathering pipelines, steel tank storage facilities, pump. plants, etc., own forces and separate contracts. **$50,000** or more. CD 7/10—ENR 7/17.

Texas—POWER LINE—Denison Power Co., Denison, 12,000 volt power line exten. to serve Basic Flying School project, near Pottsboro, force account, **$40,000.**

★**†Tex., Dallas**—HANGARS—U. S. Eng., Cotton Exch. Bldg., Dallas, steel and canvas portable hangars, to Universal Building Products Corp., 2227 Cedar Springs St., **$804,000.**

Tex., Brownsville—SHIP WAYS—Brownsville Shipbuilding Corp., c/o S. F. Ewing, Brownsville, and Morris Plan Bank Bldg., San Antonio, 2 ways for building ships, mill bed, 3 warehouses, shop, buildings, to Archer & Holding, Brownsville. **$168,000.** Est. $100,000. CD 8/6—ENR 8/14.

†Tex., Galveston — FIRE CONTROL TOWERS—U. S. Eng., Federal Office Bldg., 6 fire control steel towers, etc., to A. M. Diamond & Co., 134 Borum Pl., Brooklyn, N. Y. **$48,380.** Bids 7/31. CD 7/15—ENR 7/17.

NCLASSIFIED (Contracts Awarded, Cont'd.)

Tex., Houston—SKATING RINK—Ice Bowl c., W. Earl, 3909 McKinney St., general ntract 85x195 ft. brick, tile, ice bowl skat- g rink, 175x265 ft. building to C. E. Temple- n, 6810 Lawndale St. Est. **$250,000.** F. W. sey, 2020 Berry St., archt.

†Tex., Lubbock—SPUR TRACK—U. S. Eng., and Douglas Sts. N.W., Wash., D. C., por- n spur track, Reach I, Advanced Twin gine School, Lubbock Airfield, to Pan- ndle & Santa Fe Ry. Co., Hurlwood. **$30,345.**

Wash., Bellingham — AIRPORT — Whatcom ., Courthouse, exten. north-south runway at rport, WPA. **$90,112.** W. A. Costello, Court- use, engr. CAA.

Alta., Bowden—AERODROME BUILDINGS -Dpt. National Defense for Air, Ottawa, Ont., rious additional wood buildings at S.F.T. hool, to Bennett & White Constr. Co. Ltd., aminer Bldg., Calgary, **$418,000.**

Man., Portage La Prairie—FLYING TRAIN- G SCHOOL—Dpt. National Defense for Air, ttawa, Ont., additional buildings, Elementary ying Training School and Air Observers hool 7, to Claydon Co., Ltd., 253 St. Annes ., Winnipeg. **$91,000.**

Man., Portage La Prairie—RUNWAYS—Dpt. tional Defense for Air, Ottawa, Ont., pav- g runways, taxi strips, etc., Elementary Fly- g Training School and Air Observer's School to Rayner Constr. Co. Ltd., 29 Commercial , Leaside, Ont. **$185,000.**

N. B., Moncton—LANDING FIELD IM- ROVEMENTS—Dpt. Transport, Ottawa, Ont., acing topsoil on graded areas of landing ld, airport, to Rayner Constr. Co. Ltd., 29 mmercial St., Toronto, Ont., **$25,100.**

N. S., Auburn—HANGAR—Dom. Govt., Ot- wa, Ont., hangar, to M. A. Condon, 63 Aber- en St., Kentville. Est. **$150,000.** Dpt. Na- nal Defense, Ottawa, Ont., engr.

N. S., Shelburne—SEAPLANE BASE— ominion Govt., Ottawa, Ont., seaplane base, T. C. Gorman (Nova Scotia) Ltd., Halifax, bout **$170,000.** CD 5/8—ENR 5/15.

N. S., Sydney—WHARF—Secy. Dpt. P. Wks., ttawa, Ont., wharf, Point Edward, to R. A. ouglas, 356 Lorne St., New Glasgow. **$467,605.** ds 7/29. CD 7/16—ENR 7/24.

Ont., Brantford (Burford)—AIRPORT—Dpt. ransport, Ottawa, Ont., developing airport r S.F.T.S., grading, drainage, etc., to andard Paving, Ltd., Harbour Commis- oners Bldg., Toronto, about **$32,000.**

Ont., Burtch—WIRELESS SCHOOL—Domin- n Govt., Ottawa, wireless school, concrete n., to Hill-Clark Francis, Ltd., New iskeard, **$230,000.** Dpt. Air Defense, Ottawa, rchts. Dpt. Munitions & Supply, Ottawa, ngrs.

Ont., Edenvale — HANGAR—Dpt. National efense for Air, Ottawa, hangar, personnel ilding, incinerator and 8 bay garage, Re- f Intermediate aerodrome, to Bennett-Pratt, d., 30 Bloor St. W., Toronto. About **$125,000.** ds 7/18. CD 7/15.

Ont., Niagara Falls—SUBSTATION—Muni- pality, c/o J. W. Bayliss, secy., substation Bender Hill, to Construction Branch Hydro- ectric Comn. of Ontario, 620 University St., ronto. Est. **$40,000.** CD 8/4—ENR 8/14.

Ont., Sudbury—TRANSMISSION LINES— ydro Electric Power Comn., 620 University ve., Toronto, 25 mi. transmission lines to rve Chelmsford and Blezard Valley, **$50,- 0**; substation at Hanmer, **$25,000,** own forces.

Ont., Toronto—FLYING SCHOOL—Dpt. Na- onal Defense for Air, Ottawa, Ont., renova- on, additional buildings at Normal School, urch and Gould Sts., for No. 6 Initial Fly- g Training School, to Carter-Halls-Aldinger . Ltd., 419 Cherry St., **$200,000.**

Ont., Welland—HANGAR—Dpt. National efense for Air, Ottawa, hangar, to R. Timms nstr. Co. Ltd., 221 Burger St., S., about **75,000.**

Ont., Yarmouth Centre — HANGAR, etc. — t. National Defense for Air, Ottawa, hangar d other buildings, Auxiliary Landing Field, Johnson Brothers Co., Ltd., 43 Market St., antford. About **$150,000.**

P. E. I., Summerside—HANGAR—Dpt. Natl. efense for Air, Ottawa, Ont., relief hangar, rodrome, to M. J. Schurman, Charlottetown, out **$75,000.**

Que., Ancienne Lorette—AIRPORT DE- ELOPMENT—Dpt. Transport, Ottawa, Ont., eliminary development at airport, clearing, ading, etc. to Belmont Constr. Co., Ltd., 9 Belmont St., Montreal, about **$215,000.**

Que., Dorval—ADMINISTRATION BUILD- G—Dpt. Transport, Ottawa, Ont., adminis- tion buildings, Dorval Airport, to Walter Hunt Co., Ltd., 1405 Bishop St., Montreal, **20,000.**

Que., Lauzon—WHARF—Davie Shipbuilding ., Ltd., Lauzon, wharf exten., to Foundation . of Canada, Ltd., 1538 Sherbrooke St. W., ontreal, about **$75,000.** CD 7/30—ENR 8/7.

Que., Montreal — PARKING PLAZA — nadian National Rys., 407 McGill St., H. A. xon, ch. engr., south parking plaza, Dor- ester St., to A. Janin Building Co., Ltd., 0 Sherbrooke St. W. **$45,000.** Bids 8/6. 8/4.

Que., Montreal—BERTH—Canadian Vickers d., 5136 Notre Dame St. E., reconstructing rths 1 and 2 sections, to Atlas Constr. Co. d., 679 Belmont St. Est. **$70,000.**

Que., Three Rivers — GRANDSTAND — man Catholic Diocese, Three Rivers, out- or grandstand, to J. P. Morin, 109 St. orge St. $42,000.

Sask., Caron — RUNWAYS, etc. — Dpt. National Defense for Air, Ottawa, Ont., constructing, surfacing runways, grading, etc., to Evans Gravel Surfacing Co., Ltd., 23 St. and Ave. E, Saskatoon. **$200,000.**

Sask., Moose Jaw—AIRPORT—Dpt. Transport, Ottawa, Ont., developing airport, inc. grading, smoothing, rolling, hard surfacing runways, taxi strip, to W. C. Wells, Regina, about **$83,000.**

Sask., Sturder — AERODROME — Dpt. National Defense for Air, Ottawa, Ont., various buildings for Relief Intermediate Aerodrome, to Waterman-Waterbury Mfg. Co., Ltd., Rose and 7 Sts., Regina. About **$150,000.**

Sask., Vanscoy—HANGAR, etc.—Secy. Dpt. Munitions & Supply, Ottawa, Ont., hangar, other buildings, aerodrome, to Shoquist Constr. Ltd., 411 Duchess St., Saskatoon. About **$150,000.** Bids 7/22. CD 7/16.

PUBLIC BUILDINGS

PROPOSED WORK

★**†Calif., Inglewood**—North American Aviation, Inc., Inglewood, additional buildings, for War Dpt. $634,410 for land and buildings, $160,913 for machinery and equipment. Defense Plant Corp. will finance.

★**†Fla., Venice**—War Dpt., 20 St. and Constitution Ave. N.W., Wash., D. C., architectural-engineering contract for design and, at option of government, supervision construction complete camp for anti-aircraft firing center, Venice Beach, to accommodate 15,000 troops, to F. W. Ball & Associates, Fort Myers, $11,400,000. CD 7/22—ENR 7/24.

★**Ga., Atlanta** — Fulton-DeKalb Hospital Auth., c/o T. K. Glenn, Trust Co. of Georgia Bldg., hospital units. $5,000,000. Applied to PWA.

★**†Ga., Augusta**—Con. Q.M., cantonment for motorized triangular division, incl. quartermaster, ordnance and other service personnel, $15,890,000.

★**†Ill., Carbondale**—War Dpt., 20 St. and Constitution Ave. N.W., Wash., D. C., shell and bomb plant, Crab Orchard Lake, Sherwin-Williams Co., A. W. Stendel, pres., 101 W. Prospect Ave., Cleveland, O., will operate. CD 7/7—ENR 7/10.

★**†Kan., Parsons**—J-M Service Corp., subsidiary Johns-Manville Corp., 22 E. 40 St., New York City, shell loading plant, for War Dpt. $27,111,620. CD 7/3—ENR 7/10.

★**†Md., Baltimore**—Koppers Co., American Hammered Piston Ring Div., Bush and Hamburg Sts., plant for manufacture aircraft engine parts, for Navy Dpt. $350,000 for land and buildings, $900,000 for machinery and equip.

Md., Back River—Baltimore Co. Bd. Educ., Courthouse, Towson, plans by Buckler & Fenhagen, 325 N. Charles St., Baltimore, 3 story, 80x110 ft. brick, limestone school, concrete fdn. $165,000. Applied for PWA funds.

★**†Md., Baltimore**—Pub. Bldgs. Administration, 7 and D Sts. S.W., Wash., D. C., social security board office building. $1,000,000.

Md., Dundalk—Baltimore Co. Bd. Educ., Courthouse, Towson, plans by Palmer & Lamdin, 1020 St. Paul St., Baltimore, 3 story, 90x180 ft., brick, limestone grade and high school. $456,000. Applied for PWA funds.

Md., Edgmere (Sparrows Point, P. O.)—Baltimore Co. Bd. Educ., Courthouse, Towson, plans by Smith & May, Baltimore Trust Bldg., 2 story 90x180 ft., brick school, con. fdn. $240,000. Applied for PWA funds.

Md., Essex—Baltimore Co. Bd. Educ., Courthouse, Towson, plans by Buckler & Fenhagen, 325 Charles Ct., Baltimore, 3 story, 80x150 ft., brick, limestone school, con. fdn. $200,000. Applied for PWA funds.

Md., Havre de Grace—Havre de Grace Hospital, plans by Ballinger Co., 105 S. 12 St., Phila., Pa., hospital. $200,000. CD 8/4—ENR 8/7.

Mass., Ayer—F. C. Ayer, supt. Schools, 10 High St., 2 story, bsmnt., brick, steel school, Devencrest. $150,000.

†Mo., Louisiana—National Youth Administration, c/o Leonard Haeger, Jr., archt., Jefferson City, training center, 5 barracks, mess hall, shops, etc., for national defense workers. $225,000.

Md., Middle River—Baltimore Co. Bd. Educ., Courthouse, Towson, plans by Buckler & Fenhagen, 325 N. Charles St., Baltimore, 3 story, 90x200 ft. school. $480,000. Applied for PWA funds.

Md., Patapsco Neck—Baltimore Co. Bd. Educ., Courthouse, Towson, plans by J. R. Edmunds, Jr., 409 Calvert Bldg., Baltimore, Md., 2 story, 80x150 ft., brick, concrete, school. $163,000. Applied for PWA funds.

Mo., Overland (St. Louis P. O.)—Riteneur Consolidated School Dist., A. A. Hoech, supt., 8740 Forest Ave., plans by Wm. B. Ittner, Inc., 408 Bd. Educ. Bldg., St. Louis, school buildings. $400,000.

Mo., West Walnut Manor (St. Louis P. O.)—West Walnut Manor Bd. Educ., M. W. Bierbaum, supt., 7053 Emma Ave., St. Louis County, plans by Wm. B. Ittner, Inc., 408 Bd. Educ. Bldg., St. Louis, school. $175,000.

★**†Nevada**—Basic Magnesium, Inc., Hanna Bldg., Cleveland, O., plants for manufacture of metallic magnesium and other magnesium products, at Mead, Gabbs and Las Vegas, for War Dpt. Plants and equip. $63,000,000. Defense Plant Corp. will finance.

Nev., Las Vegas—State Hy. Comn., Carson City, completing plans maintenance, repair and shop units. $40,000. J. M. Murphy, div. engr. State Hy. Dpt., Las Vegas.

★**†New Jersey**—War Dpt., 20 St. and Constitution Ave. N.W., Wash., D. C., terminal facilities for lend-lease supplies in vicinity Caven Point, New Jersey. $2,000,000.

★**†N. J., Bellmawr**—Federal Works Agency, 7 and D Sts., Wash., D. C., bids soon 500 homes for defense housing. $1,500,000. Mayer & Whittlesey, 31 Union Sq., New York, N. Y., archts. Walter H. MacNamara, 101 N. 7 St., Camden, engr.

†N. J., Clifton—Air Cruisers, Inc., 330 Highland Ave., plant to manufacture lighter-than-air-craft for War Dpt. $253,942. Defense Plant Corp. will finance.

★**N. Y., Brooklyn**—Bd. Educ., 110 Livingston St., plans by E. Kebbon, c/o owner, altering 4 story school, 242 McDonough St. $650,000.

N. C., Raleigh—State Hy. & Pub. Wks. Comn., Raleigh, detention camp for women, on Women's Prison Detention Camp property, several miles from here. $257,324. W. L. Craven, c/o State Hy. & Pub. Wks. Comn., engr.

O., Berea—R. Koble, dir. Pub. Serv., 1 story, 40 ft. high, brick, steel, concrete, municipal light plant addn. $61,000. W. Kammerer & Assoc., 1900 Euclid Ave., Cleveland, engr.

★**O., Cleveland**—F. Bubna, dir. Pub. Properties, sketches by H. Kregelius, 517 City Hall, terminal bldg., Cleveland Airport grounds. $3,000,000.

†Ore., Astoria—Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., D.C., quarters for officers in charge of Naval Radio Station. $12,500.

†Pa., Millville—National Youth Administration, 15 St. and New York Ave., Wash., D. C., 1 story, steel concrete vocational training shop. $50,000 incl. equip.

★**Pa., Phila**—General State Auth. 2 and Locust Sts., Harrisburg, postponed indefinitely construction workers building at Phila. State Hospital. CD 7/18—ENR 7/24.

Tenn., Union City—Obion Co., c/o M. Hamilton, co. supt. Schools, plans by Hart & Russell, 3rd Natl. Bank Bldg., Nashville, Tenn., erecting, imprv. school buildings in Woodland Mills and Troy. $350,000.

†Tex., Dallas—North American Aviation, Inc., additional buildings, machinery, equip. for War Dpt. $1,314,972. Defense Plant Corp. will finance.

Tex., Denton—North Texas State Teachers College, c/o W. J. McConnell, pres., Denton, plans by H. Smith, 2151 Fort Worth St., Dallas, brick, concrete, steel science building. $270,000.

Tex., Galveston—Plans by F. T. Stafford, 1921 Post Office St., hollow tile, stucco negro and white (racial) service centers. $150,000.

Tex., Harlingen—Bd. Educ. plans by R. Newell Waters, 118 E. 5 St., brick, concrete school. $169,000. CD 8/8—ENR 8/14.

Tex., Littlefield—Voted bonds, electric light, power plant and distr. sys. $225,000.

Tex., San Benito—San Benito Housing Auth., 100 unit housing. $400,000.

★**†Tex., Texarkana**—Federal Works Agency, 7 and D Sts. S.W., Wash., D. C., Unit 1, large number dwellings for defense plant workers. $1,000,000.

Tex., Texas City—Bd. Educ. plans by H. F. Jones & Tabor, Union Natl. Bank Bldg., Houston, high school. $250,000.

Tex., Wichita Falls—G. H. McNelley, judge, Wichita Co., plans by Voelcker & Dixon, Wichita Falls, 5 story, bsmnt., 40x188 ft. brick, rein.-con. hospital and nurses' home. $435,000. Applied for PWA funds.

★**†Wash., Bremerton** — Puget Sound Navy Yard, additional ammunition storage facilities, Indian Island near here. $1,100,000.

★**Wash., Bremerton**—C. C. Casad, public wks. comr., municipal hospital. $500,000. PWA funds sought.

†Wash., Oak Harbor—Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., D. C., barracks, mess hall and bakery for Naval Air Station.

†Wash., Port Blakely—Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., D.C., quarters for married operators at Naval Radio Station. $72,000.

†Wash., Seattle—Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., D. C., torpedo storehouse, San Point Naval Air Station. $35,000.

★**Wash., Tacoma**—Tacoma Housing Auth., c/o H. P. Cain, mayor, City Hall, 300 housing units for defense workers. $900,000.

†Alaska, Kodiak—Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., D.C., paint and oil storehouse, Naval Air Station. $45,000.

†Alaska, Kodiak—Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., D. C., storehouse, Naval Air Station. $140,000.

†Alaska, Unlaska—Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., D. C., cold storage facilities for submarine base. $200,000.

PUBLIC BUILDINGS (Proposed Work, Cont'd.)

Ont., Niagara Falls — War Time Housing Ltd., J. M. Pigott, pres., 55 York St., Toronto, bids soon, general contract 100 single family dwellings, sewers, WW.

Ont., St. Catharines—Sanatorium Comn., H. A. Collins, supt., new boiler house and 2 new boilers. $40,000. H. G. Acres, Ferry St., Niagara Falls, engr.

Que., Quebec City—Municipality, c/o F. X. Chounard, City Hall, garage, Dufferin Terrace. $200,000. E. Hamel, City Hall, engr.

Que., Shawinigan Falls—Plans by J. Caron, 324 Nonaventure St., Three Rivers, city hall. $300,000.

Que., Sherbrooke—Municipality, c/o J. Labrecque, mayor, housing. $150,000.

Que., Sherbrooke—J. Labrecque, mayor, factory. $100,000.

BIDS ASKED

Bids Asked August 25

†O., Lacarne—Con. Q.M., Erie Proving Ground, 540x1400 ft. storage warehouse; adv. ENR 8/21. CD 6/26—ENR 7/3.

Bids Asked August 26

†North Carolina—Farm Security Administration, Raleigh, 7 dwellings, 7 stock barns, 7 smoke houses, poultry houses, etc.

Bids Asked August 27

†La., Bastrop—Farm Security Administration, Little Rock, Ark., farmstead units.

†Miss., Greenville—Farm Security Administration, Little Rock, Ark., 22 farmstead units, barns, dwellings, etc.

Bids Asked August 28

†La., New Roads—Farm Security Administration, Little Rock, Ark., farmstead units.

Md., Baltimore—University of Maryland, Lombard and Greene Sts., 2 rein.-con. brick, terra cotta additional stories on top present nurses' home. $75,000. H. P. Hopkins, 10 E. Mulberry St., archt. F. A. Fletcher, 7 E. Franklin St., assoc. archt.

Bids Asked August 29

Ala., Childersburg—Coosa Valley Defense Housing Auth., City Hall, Sylacauga, housing.

†Mont., Glacier Park—Public Bldgs. Administration, 9 and D Sts. S.W., Wash., D. C., garage, Border Station.

S. C., Aiken—Aiken Housing Auth., 44 unit housing, Project (7-2).

†Tex., Lamesa—Farm Security Administration, Administration Bldg., Fair Park, Dallas, labor camp, community center building, gate house, managers house, 25 farm labor homes, 25 quaduplex shelters, 26 out buildings, electrical work, sanitation, water supply, etc. Bids rejected 6/17. CD 6/23—ENR 6/26 under LB.

★**†Tex., San Antonio**—U. S. Eng., Moore Bldg., hospital and medical facilities buildings, Kelly Field. $643,570. CD 7/8—ENR 7/10.

†Wis., Superior—Pub. Bldgs. Administration, Wash., D. C., removnig and replacing 1 passenger elevator, construction changes, exten. and alterations in court house and custom house.

Bids Asked August 30

Tex., Galveston—Galveston Housing Auth., c/o L. W. Henslee, exec. dir., City Hall, 230 unit housing, Project (17-2).

Bids Asked September 2

†Ark., Warren—Farm Security Administration, Little Rock, farmstead units.

Bids Asked September 3

N. Y., New York—New York City Housing Auth., 122 E. 42 St., demolition all buildings, structures in Amsterdam Houses project area, Amsterdam Ave., W. 64 St., West End Ave. and W. 61 St.

Bids Asked September 6

Wash., Pullam—Washington State College, 4 story veterinary classroom bldg. $150,000. Whitehouse & Price, Hutton Bldg., Spokane, archts. CD 7/30—ENR 8/7.

★**Wis., Manitowoc**—Manitowoc Co., 3 story, brick, steel, concrete county asylum building. $500,000. Stubenrauch, Brandt and Schmitt, Court House, archts. CD 5/11—ENR 6/19.

Bids Asked September 9

Conn., Hartford—B. Cox, chn., Hartford Housing Auth., 525 Main St., Nelton Court, 1 and 2 story row house 10 units, community center, comfort station and offices, Conn.-3-1R. $150,000. USHA. Carl J. Malmfeldt, 36 Pearl St., archt. CD 8/1—ENR 8/7.

Bids Asked September 13

N. H., Concord—State, Comptroller's Office, State House, 3 story, bsmnt, brick, stone nurses dormitory addn., State Hospital, concrete fdn. $160,000. Wells, Hudson & Granger, Main St., Hanover, archts. CD 2/13—ENR 2/20.

Bids Asked September 23

†Ind., Marion — Veterans Administration, Arlington Bldg., Wash., D. C., Clinical Bldg., 124 and Connecting Corridor 15-124.

Bids Asked about November 1

★**Tex., Galveston**—Galveston Housing Auth., c/o L. W. Henslee, exec. dir., City Hall, 350 one story, tile stucco, concrete low cost housing units for whites, between Broadway and Moody Stadium. $1,000,000. USHA. B. Milam, c/o Trust Bldg., R. R. Rapp c/o Guaranty Bldg., F. T. Stafford, 1921 San Antonio St., archts. J. W. Beretta Engineers, Inc., Natl. Bank Commerce Bldg., San Antonio, engrs.

Bids Asked

★**Calif., Richmond** — Richmond Housing Auth. plans by K. O. Narbett, 468 31 St., Richmond, E. G. Bangs, 1404 Franklin St., Oakland and L. W. Hurd, 442 Post St., San Francisco, 100 duplex dwellings, Proj. CAL 10-1. $750,000.

LOW BIDDERS

†Calif., Taft—Farm Security Administration, 30 Van Ness Ave., San Francisco, Aug. 8, 12 apartment bldgs., roads, walks, playgrounds, related utilities, from Jacobsen & Wikholm, 1614 Willington Rd., Los Angeles. **$209,797.** CD 8/1—ENR 8/7.

†Calif., Vallejo—Farm Security Administration, 30 Van Ness Ave., San Francisco, Aug. 9, 200 demountable defense houses, etc. FSAC 620, from E. C. Nickel, 1401 Rancho Rd., Santa Anita Oaks, Arcadia, **$298,500.** CD 8/1.

★**†Conn., Bridgeport**—Federal Works Agency, 7 and D Sts. S.W., Wash., D. C., Aug. 11, 400 dwelling units for defense housing, Success Park, Conn. 6052-X, from John T. Brady & Co., 606 W. 47 St., New York, N. Y. **$1,527,000.** CD 8/1—ENR 8/7.

†Mo., St. Charles—Farm Security Administration, c/o Dist. Eng., Court House, St. Charles, July 22, 60 housing units, north of village Dardenne, St. Charles Co., from John Harvey Vatterott & Associates, 6035 Weber Rd., Affton, St. Louis, P. O., Item (1) **$292,145.** CD 7/10.

★**†N. J., Dover**—War Dpt., 20 St. and Constitution Ave. N.W., Wash., D. C., 14 brick, steel, concrete arsenal buildings, Pictinney Arsenal, from Frank Briscoe Co., Inc., 287 S. 19 St., Newark. **$963,940.** Francisco & Jacobus, 511 5th Ave., New York, archts. CD 7/10—ENR 7/17.

N. Y., New York—Bd. Educ., 110 Livingston St., Brooklyn, Aug. 11, plumbing for P.S. 120, from J. E. Kahn, 131 W. 21 St., **$73,000***** heating, from Daniel J. Rice, Inc., 41-50 38 St., Long Island City, **$181,159*****electrical work, from Hanson Electric Corp., 883 48 St., Brooklyn, **$76,986.** CD 7/31—ENR 8/7.

†N. C., Charlotte—Charlotte Housing Auth., 831 Siegel Ave., Aug. 8, 86 housing units for non-commissioned officers and families, New Dixie and Belt Rds., near Air Base, for USHA, from P. S. West Constr. Co., Statesville. **$265,000.** CD 7/29—ENR 7/31.

Pa., Camp Hill—Dpt. Property & Supplies, State Capitol, Harrisburg, Aug. 13, structural steel construction for industrial building, Pennsylvania Industrial School, from Reading Metal Craft Co., Angelica St. and Fern Ave., Reading. **$52,700.** CD 7/30—ENR 8/7.

CONTRACTS AWARDED

★**†Conn., Bridgeport**—Federal Works Agency, 2082 Kings Hy., 150 unit defense housing, Project Conn. 6054-X, Park Ave. and Benson St., to Caulway, Inc., 1841 Broadway, New York, N. Y. **$585,000.** Bids 8/1. CD 8/5—ENR 8/7.

★**†Conn., Bridgeport**—Bridgeport Brass Co., East Main St. and 30 Grand St., brick, steel, concrete plant for manufacture cartridge cases for Navy Dpt., to Stone & Webster, Inc., 49 Federal St., Boston, Mass. Est. **$4,275,000** incl. equip. CD 7/29—ENR 7/31.

★**†Conn., Fairfield**—Federal Works Agency, Wash., D. C., 200 unit defense housing, Conn. 072-X, Melville Rd., to Home Guild, Inc., 415 Lexington Ave., New York, N. Y. **$744,000.** CD 8/12—ENR 8/14.

†Conn., New Haven—M. B. Mfg. Co., 1060 State St., 1 story, 62x110 ft., brick, steel plant addn., to Kelley-Wood Co., 39 Center St. Est. **$100,000.** Defense Plant Corp. will finance.

★**†Kan., Wichita**—Federal Works Agency, Wash., D. C., 600 dwelling units, to Southern Mill & Mfg. Co., 525 S. Troost St., Tulsa, Okla. **$1,510,904.** CD 7/10—ENR 7/17.

★**†Ky., Avon**—Con. Q.M., McClelland Bldg., Lexington, Signal Corps Storage Depot, 3 warehouses, 5 miscellaneous buildings, heating plant, steam distr. sys., railroads, water supply sys., sewage disposal plant, utilities, to Frank Messer & Sons, Inc., 2512 Burnet St., Cincinnati, O. Est. **$2,036,500.** CD 8/1—ENR 8/7.

★**†Minn., St. Paul**—War Dpt., 20 St. and Constitution Ave. N.W., Wash., D. C., construction Twin City ordnance plant, to Foley Bros., Inc., New York Bldg., St. Paul, Minn., and Walbridge-Aldinger Co., 409 Griswold St., Detroit, Mich. **$17,661,925.** CD 8/4—ENR 8/7, under CA.

★**†Mo., St. Louis**—McQuay-Norris Mfg. C 2320 Marconi St., construction plant f manufacture armor piercing cores for sma arms ammunition in vicinity Goodfellow a Bricher Blvds., Northwest St. Louis for W Dpt., to Fruin-Colnon Contg. Co., 5 Merchants-Laclede Bldg. $2,961,000 constru tion cost, $4,461,000 for equip. Total e $7,422,000. CD 3/6—ENR 3/13 under CA

N. J., Caldwell—Essex Co. Hall of Recor Bldg., Newark, addn. power plant at coun penitentiary, to La Fontaine Constr. Co., Kimball Ave., Westfield. $40,000. Epple Kahrs, 15 Washington St., Newark, arch W. Stickel, Hall Records Bldg., Newark, eng CD 7/14—ENR 7/17.

★**N. J., Jersey City**—Housing Authority, Je sey City, City Hall, seven 3 story, bsmnt brick apartment bldgs., Greemont Ave., Brig and Colden Sts., for Booker T. Washingto Housing Auth., general contr. to Auf De Heide-Aragona Inc., 5510 Jackson St., W New York, **$748,200;** plumb., draining, Jaehnig & Peoples Inc., 223 13 Ave., Newar **$115,490;** iron and steel, to Arrow Iron C Inc., 408 Whiton St., Jersey City, $22,5 heating, to R. G. Maupain Co., Inc., 63 Ha cock Ave., **$72,686;** elec., to Badaracco Co., 107 Bloomfield Ave., Newark, $32, CD 7/14—ENR 7/17.

†N. J., Raritan and **Woodbridge**—War Dpt 20 St. and Constitution Ave. N.W., Wash D. C., 1 story, 60x200 ft, brick, steel lend lea building with rein.-con. loading platfor Raritan Arsenal, to Schureman Constr. Cor 782 Paterson Ave., East Rutherford. $48,7

N. J., West Orange—Henry L. Crowley Co., 1 Central Ave., 1 story, 50x300 ft., bric steel ceramics manufacturing plant, for Wa Dpt., to G. Willard Wharton, 39 Nishuan Rd., Montclair. $40,000; incl. equip. $245,0 Defense Plant Corp. will finance. CD 8/12- ENR 8/14.

†N. Y., Buffalo—U. S. Eng., 540 Feder Bldg., storehouse, garage, bituminous driv ways, stone filled parking areas, land gra ing, Black Rock Locks, to Metzger Cons Corp., 429 Carlton St. **$47,380.** Bids 7/1. C 6/2—ENR 6/5.

★**†N. Y., Niagara Falls**—Public Bldgs. Ad ministration, Wash., D. C., 300 unit defens housing for industrial workers, to Skolnic Building Corp., 17 E. 42 St., New York, N. **$1,100,000.** CD 7/31—ENR 8/7.

★**N. Y., Voorheesville**—Con. Q.M., genera depot and traffic regulation station t Duffy Constr. Corp., 230 Park Ave. and Carle ton Co., Inc., 500 5th Ave., New York **$5,044,160.** Noted CD 8/19.

★**†O., Dayton**—War Dpt., 20 St. and Con stitution Ave. N.W., Wash., D. C., te stand, Wright Field, to Ferro-Concrete Const Co., 203 W. 3 St., Cincinnati. **$1,100,000.**

★**Okla., Enid**—FLYING SCHOOL—U. S Eng., 1st and Douglas Sts., N.W., Wash D. C., basic flying school, to Tankersle Constr. Co., Ramsey Tower and M. E. Trapp Petro Bldg., Oklahoma City, **$3,940,000.** C 6/27—ENR 7/3.

★**†Pa., Clairton**—Allegheny County Housi Auth., 201 County Office Bldg., Pittsburg 70 buildings, defense housing project, P 36151-X, for FWA, to Jas. McHugh, 64 S. Park Ave., Chicago, Ill. **$1,916,500.** C 8/7.

★**†Pa., Marietta**—Con. Q.M., general storag depot, incl. 6 warehouses, 6 miscellaneou structures, etc., to Brann & Stewart & Co Broad St. Sta. Bldg., Phila., Pa. **$5,044,60** Hunt-Davis & Dunnells, Inc., Century Bldg Pittsburgh, Pa. engrs. and archts.

★**†Pa., Pittsburgh**—Allegheny Co. Housi Auth., Law & Finance Bldg., general co tract, incl. trades and landscaping for Gl Hazel Heights Defense Housing, 1,000 fam lies, Project 26,101, for FWA, to Starrett Sons, 8 South Dearborn St., Chicago, Ill and Pantarelli & Sons, 4248 N. Kilpatric Ave., Chicago, Ill. **$3,894,983.** CD 8/7—EN 8/14.

★**†S. C., Columbia**—Con. Q.M., Fort Jack son, buildings, utilities, to J. A. Jone Constr. Co., 209 W. 4 St., Charlotte, N. C **$581,577.** CD 7/10—ENR 7/19, under LB.

†Tex., Mineral Wells — Con. Q.M., Cam Wolters, shop detachment building, to H. E Kilstofte, Builders Exch., San Antonio. **$53, 000.** Est. $60,000.

†Tex., Mineral Wells — Federal Work Agency, 7 and D Sts. S.W., Wash., D. C., 1 demountable houses for families and negr soldiers, 84 demountable houses for enliste white men and civilians, Camp Wolters, t Ready Cut House Co., 3601 Polk St., Houston **$238,388.** CD 7/9—ENR 7/17.

†Utah, Ogden—Con. Q.M., ammunitio building, bombing plant, to Ellis W. Barker 264 S. 10 St. E. Salt Lake City. **$53,500.**

Ont., Ottawa—Secy. Dpt. P. Wks., Ottawa 2 story, 50x500 ft. Dominion Govt. Temporary Building 4, Lion St., to Alex. I. Garvock Ltd., Regent Bldg., Sparks St. **$292,000.** Bid 8/8. CD 8/5.

COMMERCIAL BUILDINGS

PROPOSED WORK

★**Ark., Little Rock** — T. W. Campbell & Assoc., 8 and Louisiana Sts., 15 or 20 story office bldg. Approx. $500,000.

★**Conn., Bridgeport** — Bridgeport Hospital, Grant St., Central Ave., 3 story, brick, steel hospital, Grant St., Mill Hill Ave., $875,000.

★**Conn., Bridgeport**—St. Vincent's Hospital, 2820 Main St., W. Stapleton, Ch. Advisory Bd., plans by J. Gerald Phelan, 1336 Fairfield Ave., 5 story, brick, steel, hospital addn., Main St. **$1,115,000.**

Fla., Jacksonville — St. Lukes Hospital, Boulevard, hospital addn., **with WPA assistance.** $330,000. W. E. Arnold, Administration Bldg., executive dir.

★**Mass., Springfield**—Home Builders Contractors Assoc., J. E. Barard, pres., 500 frame constr. units, Carew St., King Estate, **$2,000,000.**

★**Mo., Richmond Heights (St. Louis P. O.)** —St. Mary's Hospital, 6420 Clayton Rd., 6 story, 180 room, brick, concrete hospital addn. $1,274,158. Applied for PWA funds.

Mo., St. Charles—St. Joseph's Hospital, 5 story, 50 room, brick hospital addn. $294,970. Applied for PWA funds.

★**Mo., St. Louis**—Ansell Brothers & Assoc., 3616 Olive St., brick, concrete, steel, structural glass motion picture theatre, Hampton Ave. between Bancroft and Sutherland Aves. $500,000.

Neb., Plattsmouth—J. H. Davis & Assoc., 50 detached homes, Oakmont addn., $175,000.

N. J., Hackensack—Corp. forming, c/o A. Gross, 210 Main St., twenty-seven 2½ story, bsmnt., brick, stone homes, Blanchard Terrace. $270,000.

★**N. J., Maywood** — Lehome Builders, Inc., Tryon Ave., Teaneck, one hundred twenty-five 2 story, bsmnt., 24x32 ft., brick, frame homes, Forest Ave. $625,000.

N. J., Passaic—Corp. forming, c/o Taylor & Sons Inc., 520 Main St., East Orange, plans by I. Naftali, 500 Bergen Ave., Jersey City, 3 story, bsmnt., brick, steel apartment bldg., Paulson Ave., $225,000.

N. J., Tenafly—Country Homes, Inc., **Howard Park Dr., thirty-three 2½ story, bsmnt.,** brick, stone veneer homes, Woodland Park Dr. $297,000.

N. Y., New York—Gelson Realty Corp., 332 East 149 St., plans by I. L. Crausman, 332 East 149 St., 6 story, 105x118 ft. apartment, University Ave. near 195 St. $215,000.

O., Cleveland—Virginia Life Insurance Co., c/o A. D. Fraser, Guardian Bldg., 3 story, bsmnt., 84x180 ft., brick, housing. $200,000.

Pa., Phila.—George Garfield c/o R. C. Kilborn, archt., 129 Greenwood Ave., Bethel, Conn., 25 units (50 families) 2 story, brick, steel duplex houses. $150,000.

★**Va., Hampton** — Hampton Institute, Dr. M. S. MacLean, pres., plans by Wiley & Wilson, archts. and engrs., American Bldg., heating and electrical plant. $650,000.

Wis., Milwaukee—Mother of Good Counsel Catholic Cong., 6825 W. Burleigh St., soon lets contract 2 story, 103x168 ft., brick, steel, School, con. fdn., M. Hanisch, Stephenson Bldg., Marinetti, archt.

BIDS ASKED

Bids Asked August 27

★**Conn. New Britain**—Bd. Directors New Britain General Hospital, C. F. Bennett, pres., 92 Grand St., 3 story, bsmnt., brick, steel, hospital addn. $650,000. Coolidge Shepley Bulfinch & Abbott, 1 Court St., Boston, archts. CD 4/10—ENR 4/17.

O., Springfield—Montgomery, Ward & Co., 619 W. Chicago Ave., Chicago, Ill., 3 story, bsmnt., 64x199 ft., brick, steel, concrete store. $300,000.

CONTRACTS AWARDED

Calif., North Hollywood—Aetna Investment Corp., 107 N. Larchmont Blvd., W. Lundeberg & C. Strawn, 1516 S. Sherbourne Dr., Los Angeles, archts., 100 dwellings, Murray Woodlands, $450,000. Owner builds.

Calif., Richmond—Easterbrook Homes, 915 Financial Center Bldg., Oakland, 1 and 1½ story, frame homes in new shipyard area, to W. H. Burke, 1529 Hearst Ave., Berkeley, **$3,500** to **$6,500** ea. Total over $150,000.

Calif., Vallejo—R. J. O'Connor, 521 Capitol St., home building project, vicinity Mare Island Navy Yard, day labor. To exceed **$160,000.**

★**Conn., Norwalk**—Gateway Development Co., c/o E. T. Howes, archt., 227 Bedford St., Stamford, commercial bldgs., residences, Danbury Turnpike, to B. J. Dolan, 207 Greenwood Ave., Bethel. Est. **$600,000.**

★**Ill., Bloomington**—Wabash Telephone Co., new exchange bldg., dial switching equipment, etc., to J. Felmley, Natl. Bank Bldg., St. Louis, Mo. Est. **$600,000** with equip. CD 5/13—ENR 5/15.

Ill., East Alton — Western Cartridge Co., East Alton, 3 story, 40x118 ft. office addn., 23x36 ft. dining room addn., 3 story lobby addn., etc., to J. J. Wuellner & Son, Oak and Front Sts., Alton. Bids 7/14. CD 7/11.

Nev., Reno—Bell Telephone Co., 140 New Montgomery St., San Francisco, Calif., 3 story, bsmnt., rein.-con., steel phone exchange addn., to Wine & Williams, 1921 Plumas St. **$150,000.**

N. J., Bayonne—Trup. Constr. Co., 510 Broadway, two 3 story, bsmnt., 50x90 ft., brick, steel apartment bldgs., Ave. C, separate contracts. **$150,000.** Barney Singer, 921 Bergen Ave., Jersey City.

N. J., Fair Lawn—Federal Plaza Homes, Inc., Urban Pl., fifty 2 story, bsmnt., brick, **frame homes, Urban Pl., day labor. $250,000.**

N. J., Fort Lee—**Beverly Hills Ideal Homes,** 55 W. Palisade Ave., Englewood, forty 1½ story, bsmnt., 24x30 ft., brick veneer homes, Whiteman St., separate contracts. **$200,000. P. S. Simon, 210 Main St., Hackensack, archt.**

N. J., Newark—American Can Co., 230 Park Ave., 3 story, rein.-con. office bldg. addn., Elizabeth Ave., to Turner Constr. Co., 420 Lexington Ave. **$250,000.** C. G. Preis, 230 Park Ave., engr.

N. J., Newark—St. Michaels Hospital, 306 High St., 5 story, bsmnt., 100x100 ft., brick, steel maternity hospital, High St., to T. J. Hughes Constr. Co., 48 W. 48 St., New York. **$450,000.** P. C. Reilly, 44 Walker Rd., West Orange, archt. CD 7/10—ENR 7/17.

N. Y., Brooklyn—Congregation of the Sisters of Mercy, 273 Willoughby St., general contract 1 and 3 story, 62x202 ft. school, auditorium and gymnasium, 710-34 East 37 St., to John Kennedy & Co., Inc., 41 East 42 St., New York, N. Y., est. **$270,000;** plumbing and heating, to G. J. Kay, 2395 Flatbush Ave., **$40,000.** Bids 8/7. CD 7/40—ENR 8/7.

N. Y., Forest Hills — Cornell Developing Corp., 16 Court St., Brooklyn, 6 story apartment, 104-21 68 Dr., separate contracts. **$385,000.** P. Birnbaum, 303 W. 42 St., archt. CD 8/6—ENR 8/14.

O., Willoughby—Modern Amusement Co., c/o S. Essick, Film Exch. Bldg., Cleveland, 1 story, bsmnt., brick, steel, concrete commercial and theatre bldg., to Nick Pavle, 10518 Joan Ave., Cleveland. Est. **$150,000.** P. T. Matzinger, Empire Bldg., Cleveland, archt.

Pa., Erie—W. H. Adams, R.D. 1, group 15 to 20 units Cape Cod dwellings, 14 acre site, Wolf Rd., to A. E. Harris, c/o owner. Est. **$200,000** or more.

Pa., Mifflin Twp.—A. N. Crouch, 4301 Main St., Munhall, 1½ and 2 story, bsmnt., brick veneer residences, separate contracts. **$200,000.**

S. C., Bennettsville—Georgia Air Service Flying School, c/o Contractor, Atlanta, Ga., pilot training school, to Wessel Constr. Co., 388 N. Front St., Memphis, Tenn., approx. **$200,000.** W. C. Jones, Shrine Bldg., Memphis, Tenn., archt.

★**Tex., Ft. Worth**—M. E. Berney, F. A. Douglas and J. A. Gooche, Neil P. Anderson Bldg., 1 and 2 story, concrete face, brick homes. **$3,825,000.** Owner builds. CD 8/14.

★**Tex., Ft. Worth**—Loffland & Luther Dev. Co., c/o Mr. Luther, 5504 Byers St., Ft. Worth, 237 one story residences, Crestwood Park. **$1,000,000.** Owner builds. First 15 units started.

INDUSTRIAL BUILDINGS

PROPOSED WORK

Calif., Oakland—WAREHOUSE — California Cotton Mills, 2257 Railroad Ave., warehouse addn. $50,000.

Calif., San Francisco—PLANT—U. S. Pipe Bending Co., 249 1 Ave., plant addns. $40,000.

Conn., Greenwich — PLANT — Conde Nast Press Inc., Post Rd., soon lets contract second story rein.-con. plan taddn. $40,000. Fletcher Thompson Inc., 1336 Fairfield Ave., Bridgeport, engr.

Md., Baltimore—WAREHOUSE, etc.—Baugh Chemical Co., 2501 S. Chuton St., soon lets contract 1 and 2 story, 60x240 ft., bag warehouse and loading platform. $45,000. F. E. Conntess, c/o owner, engr.

N. H., Manchester—PLANT—Coca Cola Bottling Co., Inc., Salem Depot, soon lets contract 1 story, 70x120 ft., brick, steel, concrete bottling plant. $50,000. Office of J. E. Allen, 351 Essex St., Lawrence, Mass., archt.

Neb., Omaha—PLANT—Jerpe Comn. Co., 11 and Douglas Sts., alterations, new equip. for egg drying plant. $50,000. A. J. Egan, 30 N. LaSalle St., Chicago, Ill., engr.

N. J., Linden—FACTORY—The Virginia Dare Extract Co., 882 3 Ave., Brooklyn, New York, brick, steel, factory bldg., Route 25, $150,000.

N. Y., Brooklyn—WAREHOUSE—Bush Terminal Co., 100 Broad St., New York, plans by Wm. Higginson & Son, 101 Park Ave., New York, altering 4 story warehouse, 43 St. near 1 Ave. $120,000.

N. Y., Corona—GARAGE—F. Reiner, 83-37 Grand Ave., Elmhurst, plans by L. Danancher, 161-19 Jamaica Ave., Jamaica, 1 story garage, gas station and repair shop. $50,000.

★**N. Y., Niagara Falls**—FACTORY—National Carbon Co., West 117 St. and Madison Ave., Cleveland, O., soon lets contract group 4 brick, steel, concrete buildings. $600,000.

N. C., Charlotte—WAREHOUSE, etc.—McNeil Paper Co., T. C. McNeil, pres. and treas., 309 E. 8 St., bids soon, 1 story, bsmnt. warehouse and office building, N. Tryon St. $50,000.

N. C., Durham — BUS TERMINAL — Office J. M. Edwards, archt., 102 W. Hargett St., Raleigh, soon lets contract bus station, Main and Dillard Sts., for Carolina Coach Co., lessee (J. A. Buchanan, owner). $75,000-$100,000. C. C. CD 12/24—ENR 1/2.

O., Cleveland—FACTORY—Artisan Metal Wks. Co., J. F. Maynard, pres., 11400 Madison Ave., soon lets contract 1 story, 60x85 ft., brick, steel factory addn. $40,000. W. G. Caldwell, 838 Engineers Bldg., archt.

O., Cleveland — FACTORY — Independent Towel Supply Co., 1502 Central Ave., soon lets contract, fifth story, 60x101 ft., factory (top) addn. $50,000. Christian, Schwarzenberg & Gaide, 1836 Euclid Ave., engr.

O., Cleveland—FACTORY—Kris-Kay Products, Inc., H. R. Rosenberry, pres., 11113 Union Ave., 2 story, 50x75 ft., brick, steel, concrete factory addn. $40,000. Osborn Eng. Co., 7016 Euclid Ave., engr.

O., Cleveland—FACTORY — National Acme Co., G. J. Steinbicker, secy.-treas., E. 131 and Cort Rd., 1 story, brick, steel factory addn. $60,000. G. S. Rider Co., 3800 Terminal Tower, engr.

O., Salem—PLANT—Salem Eng. Co., 1 story, modern frozen food locker plant, S. Broadway. $40,000.

Pa., Butler—FACTORY—American Bantam Car Co., H. E. Crist, wks. mgr., 1 story, 50x250 ft., structural steel frame factory. $45,000. P. Greene, c/o owner, engr.

Pa., Foster Brook (Bradford P. O.)—PLANT IMPROVEMENTS—Kendall Refining Co., O. Koch, pres., Kendall Ave., Bradford, imprvs., addns. Bradford Oil Refining Co. plant, recently acquired. Over $40,000.

Tex., Baytown—PLANT—Humble Oil & Refining Co., Baytown, gasoline manufacturing plant expansion. $250,000.

Tex., Beaumont—PLANT—C. R. Tolivar Ice Plant Co., ice mfg. unit. $40,000 or more.

Tex., Deer Park—REFINERY—Shell Refining Co., Shell Bldg., Houston aviation gasoline refining unit. $300,000.

Tex., Edcouch—PLANT—G. O. McDaniel, 101 Adkins St., bids soon 1 and 2 story, 128x160 ft. fruit packing plant and citrus cannery, rein.-con., brick, metal. $50,000.

Tex., Gilmer—PLANT—Farmers Electric Generating Co-operative, Gilmer, natural gas generating plant unit, 3 concrete natural gas engine-driven direct-connected generators, etc. $75,000. Freese & Nichols, Capps Bldg., Fort Worth, engrs.

Tex., Houston—MARKET—Farmers Co-operative Marketing Assn., c/o M. L. Stanfield, c/o Montgomery Rd., retail and wholesale market, building to house wholesale trucks, etc., 9½ acre site. $100,000.

Tex., Houston — GASOLINE PLANT — Sinclair Refining Co., Gulf Bldg., aviation gasoline plant. $350,000.

Tex., Port Arthur—GASOLINE REFINING UNIT—Texas Co., Port Arthur, and 720 San Jacinto St., Houston, aviation gasoline refining unit. $300,000 or more.

Wis., Port Washington—PRINTING SHOP—Schanen Press, plans by Foeller, Schober, Berners, Safford & Jahn, 310 Pine St., Green Bay, soon lets contract 2 story, 50x100 ft. brick, steel, concrete printing shop.

BIDS ASKED

Bids Asked about August 26

O., Cleveland — FACTORY — Empire Brass Co., J. Arth, pres., 10305 Berea Rd., 1 story, 50x100 ft., brick, steel, factory addn. $40,000.

Bids Asked August 28

N. J., Jersey City — WAREHOUSE — Erie R. R., J. W. Smith, ch. engr., Midland Bldg., Cleveland, O., repairing 6 story warehouse damaged in fire. CD 6/12—ENR 6/19.

Bids Asked September 9

Mass., Waltham—BOILER PLANT—Judson L. Thomson Mfg. Co., South St., 1 story, bsmnt,. 55x64 ft., brick, steel, rein.-con. boiler plant. C. T. Main, Inc., 201 Devonshire St., Boston, engr.

Bids Asked

N. Y., Schenectady — PACKING PLANT — Pleasant Valley Packing Co., 586 Broadway, 1 story, bsmnt., 65x100 and 35x100 ft., brick, rein.-con. packing plant addn. Bids 7/9 rejected. Worcester Eng. Co., 88 Tremont St., Boston, Mass., engrs. CD 7/2—ENR 7/11, under BA.

O., Alliance — FACTORY — American Steel Foundries Co., 410 N. Michigan Ave., brick, steel factory buildings. Over $500,000. CD 7/30—ENR 8/7.

INDUSTRIAL BLDGS. (Bids Asked, Cont'd.)

O., Cleveland—FACTORY—Lincoln Lounge of Cleveland, Inc., M. Coren, in charge, 3746 Kelly Ave., 2 story 45x84 ft. brick, steel factory addn. $40,000. Col. Karl I. Best, 1836 Euclid Ave., archt.

★**Tex., Brownsville—REFINERY—Davis & Co.,** Inc., c/o N. V. Hansell, 1322-40 Commerce St., Houston, and c/o Tank Farm, Brownsville, refinery and by-products plant, 1,700 bbl. daily capacity. $2,250,000. Winkle-Koch Eng. Co., 335 W. Lewis St., Wichita, engrs. CD 1/6—ENR 1/9.

Wis., Milwaukee — KILN — Kurth Malting Co., S. 43 and W. Burnham Sts., 5 story, 53x115 ft., rein.-con., steel, brick kiln bldg. L. E. Peterson, 312 E. Wisconsin Ave., engr.

Ont., Sandwich—ABATTOIR—Sheppard & Masson, archts., 52 Chatham St. W., Windsor, abattoir, for Royal Packing Co. Ltd., c/o L. R. Cumming, Canada Life Bldg., Windsor. $65,000.

Bids Asked

Ont., Toronto — PLANT — Drug Co., Ltd., Ontario St., 2 story, 85x146 ft., rein.-con., brick plant addn. $45,000. Margison & Babcock, 210 Dundas St. W., archts. CD 5/15/40—ENR 5/30/40.

CONTRACTS AWARDED

Calif., Colma—DAIRY—J. Ceaser & G. Christophe, Colma, dairy, to J. F. Millet, 100 Citrus Ave., Daly City, **$45,000.**

Calif., Redwood City—BUS TERMINAL, etc.—W. D. Peugh, archt., 333 Montgomery St., San Francisco, 1 story, rein.-con. bus and baggage terminal, for Pacific Greyhound Lines, 5 and Mission Sts., San Francisco, to C. J. Pedersen, 734 Prospect Row, San Mateo, **$50,000.** Bids about 8/4. CD 7/23—ENR 7/31.

Calif., San Francisco—WAREHOUSE—Miller & Warnecke, archts., Financial Center Bldg., Oakland, 1 story, rein.-con. warehouse and 2 story, rein.-con. administration unit, for Pacific Vegetable Oil Corp., 62 Townsend St., to Monson Bros., 475 6 St. Approx. **$80,000.** Bids 8/4. CD 7/29—ENR 7/31.

Calif., San Francisco — WAREHOUSE — E. Nell, c/o contractor, warehouse addns., to F. W. Schell, 666 Mission St., **$50,000.** M. Ciampi, 821 Market St., archt. W. H. Ellison, Pacific Bldg., engr.

Calif., San Leandro—FACTORY—National Automotive Fibres, Inc., Railroad Ave. and Kennedy St., 1 story, 320x600 ft., rein.-con. factory, to A. T. Beckett, 366 40 St., Oakland. **$287,245.**

Conn., Meriden — FACTORY — Conn. Telephone & Elec. Corp., 70 Britannia St., two 60x100 ft., brick, concrete factory addns. **$40,000.** Owner builds.

Conn., Meriden—PLANT—Cuneo Eng. Co., 2 story, bsmnt., 45x100 ft. plant addn., to H. Wales Lines Co., 134 State St., Meriden. Est. **$55,000.**

Conn., Waterbury—WAREHOUSE, etc.—J. E. Smith & Co., Inc., 65 Benedict St., 1 and 2 story, 130x190 ft., brick, steel, concrete warehouse, garage, South Leanard St. Owner builds. **$110,000.** H. T. Moekel, 35 Hillcrest Ave., Naugatuck, archt. CD 7/22—ENR 7/24.

★**Ill., Wood River—PLANT—Shell Oil Co.,** 50 W. 50 St., New York, N. Y., toluene plant, to Fluor Corp. and C. F. Braun Co., 1000 S. Fremont Ave., Alhambra, Calif. **Est. $1,000,000.**

★**Ind., Jeffersonville**—MANUFACTURING—Colgate Palmolive-Peet Co., part 2 and 4 story manufacturing bldg., to Turner Constr. Co., 420 Lexington Ave., New York City, N. Y. Est. **$500,000.** CD 7/25—ENR 7/31.

Md., Fort Geo. G. Meade—FREIGHT STATION, etc.—**Baltimore & Ohio R.R. Co., B and** O Bldg., Baltimore, C. W. Van Horn, vice pres., Aug. 8, freight and passenger station, to E. J. Dougherty Constr. Co., Garrett Bldg., Baltimore. Est. **$40,000.** C. C. Clarke, c/o owner, engr. CD 8/6—ENR 8/14.

Mass., Hopedale—FACTORY—Draper Corp., 4 story, 140x300 ft., brick, steel, concrete, factory addn., to Bathelt Constr. Co., 380 High St., Holyoke, Est. **$350,000.** McClintock & Craig, Inc., 458 Bridge St., Springfield, engr.

Mass., New Bedford—BOTTLING PLANT—Coca Cola Bottling Co., 437 Kempton St., 1 story, brick, steel, concrete bottling plant addn., Kempton St., to Rowley Constr. Co., 260 Central Ave., Pawtucket, R. I. Est. **$65,000.** Bids 8/5. CD 7/28—ENR 7/31.

Mass., North Adams — FACTORY — James Hunter Machine Co., 2 Main St., 2 story, 42x135 ft., brick, steel, Building 4, factory addn., Main St., to Aberthaw Co., 80 Federal St., Boston. Est. **$55,000.**

Mass., Northampton — BOTTLING CO. PLANT—Coca Cola Bottling Co., 125 Armory St., Springfield, 1 story, 87x153 ft., brick, steel, concrete bottling plant, North King St., to D. A. Sullivan & Sons, Inc., 78 Main St., E. Howard Jr., Butler, Pa., engr. Est. **$50,000.** Bids 8/7. CD 8/1—ENR 8/7.

Mass., West Springfield—FACTORY, etc.—General Fibre Box Co., Circuit Ave., West Springfield, 1 and 2 story, brick factory addn., office facilities, to Ley Constr. Co., 1215 Main St., Springfield. **$47,000.** H. L. Sprague, 1570 Main St., Springfield, archt.

Mass., Worcester—SHOP—St. Pierre Chain Corp., Frank St., plans by O. E. Nault & Sons, 48 Hamilton St., 1 story, concrete, steel forge shop, to Donald Smith, 5 Rudolph St. Est. **$60,000.**

Mass., Worcester—BOILER PLANT ADDITION—Wyman-Gordon Co., 105 Madison St., 1 story, brick, steel, concrete, 57x94 ft., boiler plant addn., Lenihan St., to E. J. Gross Co., 150 Prescott St. **$44,600.**

Mo., St. Louis — WAREHOUSE — American **Smelting & Refining Co., Federated Metal Div.,** 4041 Park Ave., 1 story, 82x120 ft., brick, steel warehouse addn., rein.-con. fdn., to J. S. Alberici Constr. Co., 1718 Boatmen's Bank Bldg. Bids 8/2. CD 7/25—ENR 7/31.

Mo., St. Louis—WAREHOUSE—Monsanto Chemical Co., 1700 S. Second St., 1 story, 60x160 ft., brick, concrete warehouse, 137 W. Russell Ave., to Fruin-Colnon Contr. Co., 502 Merchants-Laclede Bldg. Est. approx. **$40,000.**

Mo., St. Louis—BAKING PLANT—Shenandoah Bakery Co., 3131 Park Ave., 1 story, 22x57 ft., brick, concrete pie baking plant addn., to J. A. Schafer, Inc., 5432 Gravois Ave. Est. **$40,000** with equip. O. W. Stiegemeyer, 4412 Lindell Blvd., archt.

N. J., Boonton—MASONRY ADDITION—Carbone Corp., 400 Myrtle Ave., 1 story 50x100 ft., masonry addn. to brush mfg. bldg., to Sterling Constr. Co., Inc., 83 Dawson Ave., D. Ludlow, 332 Springfield Ave., Summit, archt.

N. J., Bridgewater—POWER HOUSE—Calco Chemical Co., Inc., Bound Brook Rd., Bound Brook, 1 story 100x150 ft., steel, concrete power house addn., **to E. DeCristofer, 214 W. High St., Bound Brook. $125,000.**

N. J., Hoboken—GARAGE, etc.—Janssen Dairy Corp., 109 Grand St., 1 story 85x140 ft., brick, concrete block, garage and dairy bldg., to Bernard Vaggetti & Son, Inc., 706 Grand St.

N. J., Rahway — WAREHOUSE — Quinn Boden Co., 1905 Elizabeth Ave., 2 story, 100x150 ft., brick, concrete, steel warehouse, to Miller & Blyth, 441 Lexington Ave., New York. **$65,000.**

★**N. Y., Brooklyn**—MILL, etc.—Robins Dry Dock & Repair Co., Erie Basin, 1 and 3 story mill and factory, Beard St., to C. J. Moore, Inc., 285 Madison Ave., New York. Est. **$600,000.** Bids 7/25. CD 7/9—ENR 7/17.

O., Cleveland — STRIP MILL — American Steel & Wire Co., R. Buckley, asst. purch. agt., Rockefeller Bldg., round wire mill bldg., to National Eng. & Contg. Co., W. 4 and Central Ave.; cold strip and annealing bldg., to Sam W. Emerson Co., 1836 Euclid Ave. Est. **$200,000.** G. Rose, c/o owner, engr. Awarded 8/11 and 8/12. CD 7/16—ENR 7/24.

O., Cleveland—FACTORY—Bailey Meter Co., 1050 Ivanhoe Rd., 2 story, 55x56 ft. brick, steel, factory addn., to J. L. Hunting Co., Ninth & Chester Bldg. Awarded 8/7. Frank Haushka, Ninth & Chester Bldg., archt.

O., Cleveland—FACTORY—Broden Constr. Co., G. A. Broden, pres., 22800 Lakeland Ave., 1 story, 60x180 ft., brick, steel factory addn., to Alger-Rau, Inc., 12434 Cedar Rd. Est. **$60,000.** E. G. Hoefler, 5005 Euclid Ave., engr. CD 7/14—ENR 7/17.

O., Cleveland—FACTORY—Browing Crane & Shovel Co., 16226 Waterloo, 1 story, 60x100 ft. brick, steel factory addn., to Gillmore-Carmichael-Olson Co., 1873 E. 55 St. Est. **$40,000.** Awarded 8/7. A. Feldrappe, 1873 E. 55 St., engr.

O., Cleveland—FACTORY—Hertner Electric Co., J. H. Hertner, pres., 12690 Elmwood Ave., 1 story 32x60 ft. and 1 story, 61x240 ft., factory addns., to E. J. Benes & Co., 2204 Terminal Tower. Est. **$75,000.** Awarded 8/7. CD 7/8—ENR 7/10.

O., Cleveland—FACTORY—Webber Gage Co., G. D. Webber, pres., 2517 Vestry Ave., 1 story, 40x100 ft., brick, steel factory, to G. Warren, 1734 W. 24 St. Est. **$40,000.** Awarded 8/11. Jeavous, Spahn & Assoc., 12149 Cedar Rd., archts.

Tex., Dallas — PLANT — Standard Brands, Inc., Maple and Amelia Sts., yeast manufacturing plant, eight 1 to 4 story buildings, to Inge Constr. Co., Union Natl. Bldg. **$220,000.**

★**Tex., Port Arthur**—PLANT—Texas Steel Mfg. Co., c/o A. J. Armstrong, vice pres., Fort Worth, design and construction steel, shell case manufacturing plant, Intracoastal Canal, to H. E. Beyster Corp., 3901 Hemphill St., Fort Worth. Approx. **$640,000.**

Tex., San Antonio — WAREHOUSE — Jorrie Furniture Co., 131 San Pedro St., 3 story, brick, steel, concrete warehouse, to Chamberlain & Strain, c/o Natl. Bank Comm. Bldg., San Antonio. $46,400. CD 4/29—ENR 5/1.

Va., Richmond — GARAGE, etc. — Atlantic Greyhound Corp., 1 story, brick, steel, concrete garage and service station, 711 Hospital St., to J. T. Wilson Co., Mutual Bldg., Main St., **$250,000.** Bids 5/28. CD 5/21--ENR 5/29.

★**W. Va., Fairmont**—MANUFACTURING PLANT—Westinghouse Electric & Mfg. Co., 2 story, 240x450 ft. glass manufacturing plant, brick, steel, separate contracts. **$1,000,000.** Noted CD 6/4—ENR 6/12.

Wis., Barron—GARAGE—E. A. Ritchie Auto Co., Cornstock, 60x102 ft., brick, steel, garage to H. G. Koser, Almena, Klinger & Hubbard, 218 S. Barstow St., Eau Claire, archt.

Wis., Kaukauna—MILL BUILDING—Thilmany Pulp & Paper Co., 1 and 2 story 70x300 ft., steel, brick, paper mill bl[illegible] con. fdn., to Permanent Constr. Co., 2712 [illegible] Helton St., Milwaukee.

Wis., Milwaukee—STORAGE BUILDING—J. Greenebaum Tanning Co., 4[illegible]63 N. 32 St., 2 story, 67x140 ft., steel, brick storage bldg., to Siesel Constr. Co., 514 E. Ogden Ave., L. E. Peterson, 312 E Wisconsin Ave., engr.

Alta., Exshaw—PLANT—Canada Cement Co., Ltd., Canada Cement Bldg., Montreal, Que., plant exten. to Carter-Halls Aldinger Co., Ltd., Royal Bank Bldg., Winnipeg, Man. Est. **$75,000.**

B. C., Port Alberni—PLANT—B. C. Plywood, Ltd., Cromwell St., Vancouver, plywood plant, to Carter-Halls-Aldinger Co. Ltd., 700 Taylor St., Vancouver, about **$200,000.**

B. C., Powell River—PLANT—Powell River Co., Ltd., Powell River, sulphite plant, to Smith Bros. & Wilson, Ltd., 1267 Richards St., Vancouver, about **$150,000** to **$200,000.** CD 8/26.

★**B. C., Vancouver**—PLANT—North Vancouver Ship Repairs, Ltd., North Vancouver, plant enlargement and new 10,000 ton floating dry dock, to W. Stewart Constr. Co., Ltd., 615 W. Pender St., about **$750,000.** CD 8/8—ENR 8/14.

Ont., Campbellford—STORAGE, etc.—Trent Dehydrated Products, Ltd., storage, warehouse, plant addn., to H. M. Donald, Campbellford. **$40,000.**

Ont., Hespeler — FACTORY — Dominion Woolen Worsted Co. Ltd., Queen St., factory alterations, to Ball Bros. Ltd., 33 King St. E. About **$100,000.**

Ont., Ingersoll — FACTORY — Morrow Machine Screw Co., Thames St., 2 story, 70x90 ft., brick, steel factory addn., to Harry Ogden, Ingersoll. Est. **$50,000.** Awarded 8/12.

Ont., Kitchener—MACHINE SHOP—J. C. Klaehn, archt., 49 King St. E., 1 story; 60x100 ft., brick, steel machine shop, to Ball Bros., 49 King St., E. for Dominion Electric Home Industries, A. P. Dollock, mgr., Edward St. Est. **$40,000.** Awarded 8/8. CD 7/31—ENR 8/7.

Ont., Leaside—PLANT—Canadian Aircraft Instruments & Accessories, Ltd., 7 Vanderfoof Ave., 1 story, steel, brick plant addn., to R. J. Hibbs Co., Ltd., 15 Trent Ave., Toronto. Est. **$50,000.**

Ont., Ottawa — PRINTING PLANT — Dominion Loose Leaf Co., Ltd., 278 Sparks St., plant, to Baker Bros., Ltd., 5 Duke St. Est. **$40,000.** CD 2/3—ENR 2/6.

Ont., Owen Sound—PLANT—Wm. Kennedy & Sons, Ltd., 1114 First Ave. W., plant exten., to Wells & Gray, Ltd., Confederation Life Bldg., Toronto, **$70,000.** Ewart-Armer-Byam, Excelsior Life Bldg., Toronto, about **$70,000.**

Ont., Peterboro—PLANT—J. H. Vernor, mgr., Western Clock Co. Ltd., Hunter St., plant exten., to A. W. Robertson, Ltd., 57 Bloor St. W., Toronto. **$95,000.** Bids 7/22—ENR 6/12.

Ont., St. Catharines—PLANT—MacKinnon Industries, Ontario St., 1 story, brick, steel, 150x200 ft. plant, to Newman Bros., 127 St. Paul St. Est. **$100,000.** Awarded 8/7. Steel, to Standard Steel Constr. Co., Port Robinson. A. G. Nicholson, 46 Queen St., archt.

Ont., St. Catharines—FACTORY—Thompson Products, Ltd., 47 Louth St., 1 story, 100x240 ft., brick, steel factory addn., to Newman Bros., 127 St. Paul St. Est. **$80,000.** Steel, to Frankel Bros., Don Roadway, Toronto. A. E. Nicholson, 46 Queen St., archt. Awarded 8/12.

Ont., Toronto—PLANT—Aircraft, Instruments and Accessories, Ltd., Vanderhoof Ave., (Leaside) Toronto, 1 story, steel, brick plant exten., Leaside, near here, to R. J. Hibbs Constr. Co. Ltd., 15 Trent Ave., about **$125,000.**

Ont., Toronto — PLANT — Sangamo Electric Co., Ltd., 193 George St., plant addn., at Leaside, to Anglin-Norcross Ontario, Ltd., 57 Bloor St. W., about **$150,000.** Harkness & Hertzberg, Bloor Bldg., engrs.

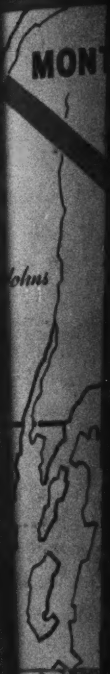
Ont., Windsor—TERMINAL—Inter-City Forwarders, Ltd., 123 Duchess St., Toronto, 1 and 2 story, 100x100 ft., steel, clay tile transport terminal addn., concrete fdn. to W. H. Cooper Constr. Co. Ltd., Medical Arts Bldg., Hamilton. About **$75,000.**

Ont., Sault Ste. Marie—SHOPS—W. M. Hugill, c/o Algoma Central & Hudson Bay Ry., Sault Ste. Marie, structural steel for reconstructing car shops, Hudson St., to Sault Structural Steel Co. Ltd., Wylde Ave.; foundation work to E. Jamieson, 531 Albert St. E. Total est. **$130.000.** CD 7/31.

Ont., Sudbury—LAUNDRY—Sudbury Constr. & Mchy., Co., Ltd., 139 Lorne St., foundry addn., to Carrington Constr. Co. Ltd., 11 Elm St. About **$45,000.** P. J. O'Gorman, 4 Durham St. N., archt.

Que., Francoeur—PLANT—Francoeur Gold Mines Ltd., Francoeur, cyanide plant, to Hill-Clarke-Francis Ltd., 7 9 St., Noranda. Est. **$250,000.**

Que., Montreal—WAREHOUSE, etc.—Dominion Stoves, Ltd., 2251 Aird Ave., warehouse and office to L. Donolo, 630 Dorchester St. W. Est. **$200,000.** E. Barrott, 606 Cathcart St., archt. W. J. Armstrong, 1010 Ste. Catherine St. W., engr.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